FACULTY OF ARTS & SOCIAL SCIENCES AND SCIENCES

SYLLABUS

FOR

B.A./B.Sc.

(12+3 SYSTEM OF EDUCATION)
(Semester: I & II)

Examinations: 2012–13

GURU NANAK DEV UNIVERSITY AMRITSAR

Combination of Subjects for B.A./B.Sc. Semester – Ist & IInd

Compulsory Subjects: Two

1. English (Compulsory)
2. Punjabi (Compulsory) / Basic Punjabi (ਮੁੱਢਲੀ ਪੰਜਾਬੀ)

Elective Subjects: Three

(A candidate shall select three subjects in all selecting not more than one subject from any of the following sets of combinations) :–

Group Subjects:

1. English / Hindi / Punjabi / Sanskrit / Bangla / Urdu / Persian / Tamil / Assamese / French / Arabic / Russian / German.
2. Economics / Defence Studies / Sociology / Fine Arts / Education / Adult Education / History of Arts / Commercial Arts / Sculpture.
3. History / Mathematics / Psychology / Ancient Indian History & Culture / Folk Arts and Culture/ Quantitative Techniques / Religious Studies.
4. Political Science / Indian Classical Dance / Stat. / App. Stat. / Commerce / Electronics.
5. Public Admn. / Home Science / Physical Education / Computer Science / Dramatic Arts.
6. Philosophy / Geography / Music Vocal / Music Inst. / Tabla / Rural Development / Agri. Economics and Marketing / Ind. Economics.

Note:

1. The candidates shall be asked to offer both Hindi & Sanskrit as elective subjects from Group No. 1.
2. The candidates shall also be allowed to offer both Music (Vocal) & Music (Instrumental) as Elective Subjects from Group No. 6.
3. The combination of Home Science with Computer Science as Elective subject is allowed.
4. The blind candidates shall be allowed to offer any two elective subjects out of Music (Vocal), Music (Instrumental) and Tabla from Group No. 6.

5. The subject of Environmental Studies will be taught in 2nd year of all the undergraduate degree classes from the Session 2007–08. However, if a candidate fails to pass this paper in the 2nd year, two consecutive chances i.e. one supplementary and other along with 3rd year may be given to him/her. The marks obtained by the candidate in this paper will not be added to the total marks obtained, and the result will be entered as "Pass" in the DMC of the third year certificate if he/she obtains at least 35% marks in the paper.

Vocational Course Subjects: Functional English, Office Management and Secretarial Practice, Computer Equipment Maintenance, Clinical Nutrition Dietetics, Tax Procedure and Practices, Functional Sanskrit, Functional Punjabi, Functional Hindi, Still Photography and Audio Products, Advertisement Sales Promotion and Sales Management, Computer Applications, Industrial Chemistry, Food Science and Quality Control, Microbiology, Tourism and Hotel Management, Tourism and Travel Management, Early Childhood Care & Education.

Refrigeration & Air Conditioning, Dairy Farming, Non–Conventional Energy Sources, Journalism & Mass Communication, Automobile Maintenance, Fashion Design & Garment Construction, Mass Communication & Video Production, Fundamentals of Industrial Microbiology, Biotechnology, Information Technology, Jewellery Design, Cosmetology.

Note: 1. The subject of 'Human Genetics' may be offered as an elective subject in combination with any other Life Sciences subject, with English, Punjabi and Chemistry being compulsory subjects.

Note: 2. Tourism & Hotel Management should not be taken alongwith Tourism and Travel Management.

CONTENTS

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–I
POLITICAL SCIENCE

PRINCIPLES OF POLITICAL SCIENCE

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setter:

The question paper consists of Five Units: I, II, III, IV and V. Units I, II, III, and IV will have two questions each carrying 20 marks. The students are to attempt one question from each unit approximately in 1000 words. Unit–V consists of 10 short answer type questions to be set from the entire syllabus will carry 20 marks in all. Each short answer type question carries 2 marks, to be attempted in 8 to 10 lines.

Unit–I

1. **Political Science:** Meaning, Nature and Scope.
2. Relationship of Political Science with Economics, History, Sociology and Psychology.

Unit–II

1. **State:** Definition, Elements and its distinction from Government and Society.
2. **Theories of the Origin of State:** Social Contract, Historical / Evolutionary and Marxian Theory.

Unit–III

1. **State:** Liberal, Marxian and Gandhian Views of State.
2. **Welfare State:** Concept and Functions of Welfare State

Unit–IV

1. **Sovereignty:** Definition, Attributes and Types of Sovereignty.
2. **Theories of Sovereignty:** Monistic and Pluralistic.
3. Electorates and Electoral Systems.

Recommended Books:

1. J. C. Johari, *Principles of Political Science,* Sterling Publishers, New Delhi.
2. S.P. Verma, *Political Theory,* Geetanjali Publishing House, New Delhi.
3. A.C. Kapur, *Principles of Political Science*, S. Chand & Company, New Delhi.
4. E. Asirvatham, *Political Theory*, S. Chand & Company, New Delhi.
5. M.P. Jain, *Political Theory*, Authors Guild Publication, Delhi, (Punjabi & Hindi).
6. David Easton, *The Political System,* Scientific Book Agency, Calcutta.
7. D.C. Bhattacharya, *Political Theory,* Vijay Publishing House, Calcutta.
8. O.P. Gauba, *An Introduction to Political Theory*, Macmillan Indian Ltd., New Delhi.
9. Satish Kumar Sharma, *Adhunik Rajnitik Vishleshan,* Publication Bureau, Punjabi University, Patiala.
10. Andrew Heywood, *An Introduction to Political Theory*, New Delhi, Palgrave Publications, 2004.
11. Aeon J. Skoble and Tibor R. Machan, *Political Philosophy,* Ist Edition, New Delhi, Pearson, 2007.

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SEMESTER–II
POLITICAL SCIENCE

MODERN POLITICAL THEORY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setter:

The question paper consists of Five Units: I, II, III, IV and V. Units I, II, III, and IV will have two questions each carrying 20 marks. The students are to attempt one question from each unit approximately in 1000 words. Unit–V consists of 10 short answer type questions to be set from the entire syllabus will carry 20 marks in all. Each short answer type question carries 2 marks, to be attempted in 8 to 10 lines.

Unit–I

1. **Political System:** Meaning, Characteristics and Functions.
2. **Political Culture:** Meaning, Characteristics and Types.
3. **Political Socialisation:** Meaning, Characteristics and Agencies.

Unit–II

1. **Rights and Duties:** Meaning, Types and Relationship between the Two.
2. Universal Declaration of Human Rights.
3. **Environmental Protection:** Issue and Efforts.

Unit–III

1. **Liberty**: Meaning, Types and its Safeguards.
2. **Equality:** Meaning, Types and Relationship between Liberty and Equality.
3. **Justice**: Meaning and its various Dimensions.

Unit–IV

1. **Democracy:** Meaning, Characteristics and Types.
2. **Theories of Democracy:** Liberal, Marxian and Elitist Theory.

Recommended Books:

1. J. C. Johari, *Principles of Political Science*, Sterling Publishers, New Delhi.
2. S.P. Verma, *Political Theory*, Geetanjali Publishing House, New Delhi.
3. A.C. Kapur, *Principles of Political Science,* S. Chand & Company, New Delhi.
4. E. Ashirvatham, *Political Theory,* S. Chand & Company, New Delhi.
5. M.P. Jain, *Political Theory,* Authors Guild Publication, Delhi, (Punjabi & Hindi).
6. David Easton, *The Political System,* Scientific Book Agency, Calcutta.
7. D.C. Bhattacharya, *Political Theory,* Vijay Publishing House, Calcutta.
8. O.P. Gauba, *An Introduction to Political Theory,* Macmillan Indian Ltd., New Delhi.
9. Satish Kumar Sharma, *Adhunik Rajnitik Vishleshan,* Publication Bureau, Punjabi University, Patiala.
10. John–Hoffman and Paul Graham, *Introduction to Political Theory,* New Delhi, Pearsons, 2006.
11. Andrew Heywood, *An Introduction to Political Theory,* New Delhi, Palgrave Publications.
12. Aeon J. Skoble and Tibor R. Machan, *Political Philosophy,* 1st Edition, New Delhi, Pearson 2007.

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SEMESTER–I
HISTORY

HISTORY OF INDIA UPTO C. 1000

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setter:

Section–A: The examiner will set 10 questions from entire syllabus and the candidate will attempt 6 questions carrying 6 marks each. Answer to each question will be in 15 to 20 sentences. The total weightage of this Section will be 36 marks.

Section–B: The examiner will set 8 questions, **two** from each Unit. The candidate will attempt 4 questions selecting one from each Unit with at least 5 pages each. Each question will carry 16 marks. The total weightage of this Section will be 64 marks.

Important Note: Paper Setter must ensure that questions in **Section–A** do not cover more than one point, and questions in **Section–B** should cover at least 50 per cent of the theme.

Unit – I

1. **Sources:** Meaning of the term 'ancient', Literary sources Vedic literature, Epics and Puranans, Buddhist and Jain texts, Sangam literature; Accounts of Indians and foreigners; Archeological Sources; Coins, Inscriptions and Monuments.
2. **The Indus Civilization:** Origin; Harappa and Mohenjodaro; Political organization; Town–planning and architecture; Agriculture, technology; Trade contacts with the outside world; Religion; Script, Seals and Figurines, Causes of disintegration.

Unit – II

3. **The Indo Aryans:** Original home; Geographical area known to Vedic texts; Social Institutions: Family, Varna and the Caste system, Religious ideas and rituals; Economy; Political Organization—Changes in the later Vedic period; Emergence of the republics and kingdoms; Growth of towns.
4. **Jainism and Buddhism:** Social and political conditions; Doctrines of Jainism and sectarian development; Teachings of Gautam Buddha; The Sangha organization; Spread of Buddhism; its decline, Legacy of Buddhism and Jainism.

Unit – III

5. **The Age of the Mauryas:** Establishment of the Mauryan Empire; Expansion of the empire; the Kalinga War; Polity and administration; Contacts with neighbouring states; Ashoka's Dhamma; Decline of the Mauryan empire.
6. **The Kushanas:** Kanishka and his successors; Mahayana Buddhism; Ghandhara Art; Literature. **The Gupta Age:** Establishment of the Gupta Empire; its expansion under Samundragupta and Chandragupta–II; Administration; Revenue system; Trade and Commerce; Art and architecture; Literature and philosophy; Science and Technology. The Huna invasions and the decline of the Gupta Empire.

Unit – IV

7. **The Age of the Vardhanas:** Establishment of Vardhana kingdom; Harsha's campaigns and political relations; Sources of revenue; Patronage of religion, Literature and education.
8. **The Cholas:** Important centres of power in the South; Establishment of the Chola power; Extent of the Chola empire; Administration; Economy; Trade, Art and Architecture religion and Philosophy.The Rajputs**:** Origins; Polity and administration; Social and Religious life; Literature and art.

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SEMESTER–II
HISTORY

HISTORY OF INDIA (C. 1000–A.D.1707)

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setter:

Section–A: The examiner will set 10 questions from entire syllabus and the candidate will attempt 6 questions carrying 6 marks each. Answer to each question will be in 15 to 20 sentences. The total weightage of this Section will be 36 marks.

Section–B: The examiner will set 8 questions, **two** from each Unit. The candidate will attempt 4 questions selecting one from each Unit with at least 5 pages each. Each question will carry 16 marks. The total weightage of this Section will be 64 marks.

Important Note: Paper Setter must ensure that questions in **Section–A** do not cover more than one point, and questions in **Section–B** should cover at least 50 per cent of the theme.

Unit – I

1. **The Conquests of the Ghaznavis and Ghauris:** Political condition of India; Invasions of Mahmud Ghaznavi; their effects, Battles of Muhammad Ghauri, Causes of the success of the Turks.
2. **Establishment of the Sultanate of Delhi:** Political and military development under Qutabuddin Aibak, Iltutmish and his successors; Consolidation of the Sultanate under Balban and the Mongol invasions.

Unit – II

3. **The Khiljis:** Emergence of the Khiljis under Jalaluddin and Alauddin Khilji; Alauddin's conquests, the Mongol invasions; Treatment of the nobility; Land revenue reforms; Economic reforms.**The Tughlaqs:** Muhammad–bin–Tughlaq; His experiments; Causes of disaffection and revolts; Feroze Tughlaq; Administrative and economic policies and their effects; Taimur’s Invasions.
4. **The Vijaynagar Kingdom:** Establishment and expansion; Polity, Economy and Administration; Art and Architecture.

Unit – III

5. **Mughal–Afghan Struggle (1526–1556):** Political condition of India; Advent of the Mughals under Babur; Battle of Panipat and its aftermath; Battle of Kanwaha, Battles of Humayun; expansion of the Afghan power under Sher Shah Suri, Administrative reforms; return of Humayun.
6. **Re–establishment and expansion of the Mughal Empire under Akbar:** Conquests, extent of empire, Religious policy, Rajput policy. **Expansion and Decline under Akbar's Successors** : Jahangir and Mewar; North–western campaigns; Extension of influence over the Deccan; Conquest of Ahmednagar by Shah Jahan; Rise of Aurangzeb to power.

Unit – IV

7. **The establishment of Maratha Power:** The rise of Shivaji, Maratha administration, Land revenue system; Chauth and Sardeshmukhi.
8. **The Mughal Government, Administration and Culture:** Position of the King: Central and local administration; Land revenue system; Mansabdari; Jagirdari; State policy towards agriculture, Trade and Commerce, Literature, Art and Architecture and Culture.

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SEMESTER–I
DEFENCE AND STRATEGIC STUDIES

WAR AND ITS VARIOUS ASPECTS (THEORY)

Time: 3 Hours **Total Marks: 100**
Teaching Periods: 75 **Theory Marks: 80**
Practical Marks: 20

Instructions for the Paper Setters:

Section A: The examiner shall set 10 questions and the candidates will attempt 7 questions carrying 4 marks each. Answer to each question shall not exceed half of the page. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions for the entire syllabus–two from each Unit. The candidate shall attempt four questions, one from each Unit. Each question shall carry 13 marks. The total weightage of this Unit shall be 52 marks.

Note: *Practicals are only meant for the regular students. For the private students the two papers shall be of **100 marks each**. For the private students, each question in Section B will be of 18 marks.*

Unit–I

1. **War**
   - a) Nature, Concept and Definition
   - b) Origin of War
   - c) History of Warfare
     - i) Animal Warfare
     - ii) Primitive Warfare
     - iii) Historical Warfare
2. **Modern Warfare**
   - i) Meaning and Definition.
   - ii) Features of Modern Warfare.
3. **Principles of War**
   - a) Meaning and Importance.
   - b) Historical Development and Application.

Unit–II

1. **War as an Instrument of Policy**
2. **Guerilla Warfare**
   - i) Origin and Concept
   - ii) Principles, Techniques & Characteristics of Guerilla Warfare.
   - iii) Counter Gureilla Warfare.

Unit–III

1. **Psychological Warfare**
   a) Definition and Concept
   b) Functions.
   c) Limitations
2. **Psychological Aspects of War**
   a) Leadership
   b) Discipline
   c) Motivation
   d) Morale
   e) Fear and Panic.

Unit–IV

1. **Nuclear Warfare**
   i) Beginning of Nuclear era and effects of Nuclear explosion.
   ii) Missiles: Types and their Classification.
   iii) Nuclear weapons: Fission & fusion bombs.
   iv) Nuclear Strategies for Defence: (Preventive, Pre–emptive, Massive Retaliation and Flexible Response)

Books Recommended:

1. Bhagat P.S., Defence of India and South–East Asia.
2. Boring, E., Psychology in the Armed Forces.
3. Chandra, P., International Politics.
4. Clausewitz, V.V., On War.
5. Copeland, Norman, J Psychology of a Soldier.
6. Encyclopaedia Americana
7. Encyclopaedia Britannica
8. Hasnain, Qamar, Psychology for the fighting man.
9. Khapp, W., A History of War and Peace.
10. Lineberger, Paul, M.A., Psychological Warfare.
11. Mukherji & Shiam Lal A Text book of Military Science, Vol.11.
12. Osanka, F.M. Modern Guerilla Warfare.
13. Palmer & Perkins International Politics.
14. Patel Satyavrata, R. A Text Book of International Law.
15. Sampooran Singh, Nuclear Warfare.
16. Sidhu, K.S., War its Principles.
17. Tripathi, K.S., Evolution of Nuclear Strategies.
18. Mao–Tse Tung, Modern Guerilla Warfare.
19. Wright, Quincy, Study of War.
20. Kalkat, O.S. & Sidhu S., Jung: Sankalp Ate Vividh Path, (Punjabi).
21. Palit, D.K. (ed), Sanik Gyan de Mul Niyam (Punjabi). Hardial Singh Gill
22. Kamar Husnain, (ed.), Fauji Prati Mano Vigyan (Punjabi) Darshan Singh.
23. Paramjit Singh, Yudh ate Surakhiya (Punjabi)
24. Bhupinder Singh, Defence Studies.

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SEMESTER–I
WAR AND ITS VARIOUS ASPECTS (PRACTICAL)

Time: 3 Hrs. **Marks: 20**
Written: 10
Practical: 05
Discussion Topics & Viva: 05

Instructions for the Examiners:

1. Examiners are required to set a question paper containing 10 marks of 1 hour duration in which he is supposed to set at least 3 questions of 5 marks each and students are required to attempt any two.
2. In the written practical Examination, choice in questions may be given to the students. The question paper is to be set at least half an hour before the examination.
3. Each student should be asked to deliver a talk/make short presentation for 5–10 minutes on any of the given topics.
4. Examiners should devote reasonable time for Viva–Voce Test and assess the practical record of a student.
5. For practical paper one group of Students will not comprise of more than 20 students at a time.

A. WRITTEN TEST **Marks: 10**

1. **Map:**
   a) Definition and Features
   b) Classification and its utility for Military
   c) Enlargement and reduction of Maps
2. **Conventional Signs:** Military and Geographical
3. **GRID System:** Four Figure and Six figure Map References.

B. TOPICS FOR DISCUSSION/PRESENTATION: **Marks: 05**

a. Principles of War
b. Military Leadership
c. Guerilla Warfare

C. RECORD **Marks: 05**

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SEMESTER–II
DEFENCE AND STRATEGIC STUDIES

INTERNATIONAL RELATIONS: DEFENCE ASPECTS (THEORY)

Time: 3 Hours **Total Marks: 100**
Teaching Periods: 75 **Theory Marks: 80**
Practical Marks: 20

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 questions and the candidates will attempt 7 questions carrying 4 marks each. Answer to each question shall not exceed half of the page. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions for the entire syllabus – two from each unit. The candidate shall attempt four questions, one from each Unit. Each question shall carry 13 marks. The total weightage of this Unit shall be 52 marks.

Note: *Practicals only meant for the regular students. For the private students the two papers shall be of **100 marks each.** For the private students, each question in Section B will be of 18 marks.*

Unit–I

1. National Interest:
- i) Concept and definition.
- ii) Vital and non–vital elements
- iii) Instruments to serve National Interest.

2. The United Nations:
- i) Structure (Organs and specialised agencies)
- ii) Functions

Unit–II

1. Balance of Power:
- i) Meaning and Concept
- ii) Historical Development of the system.
- iii) Functioning of the system.

2. Collective Security:
- i) Meaning & Concept.
- ii) Role of UN in maintaining collective security.

Unit–III

1. Diplomacy:
- i) Definition.
- ii) Types and uses

2. Frontiers and Boundaries:
- i) Difference between Frontiers and Boundaries.
- ii) Types of Boundaries.
- iii) Importance of Boundaries.

Unit–IV

1. Humanisation of War:
- i) Definition and Concept.
- ii) Geneva Conventions.

2. Means to Settle International Disputes:
- i) Pacific Means.
- ii) Coercive Means

3. Disarmament and Arms Control:
- i) Difference between Disarmament and Arms Control.
- ii) Types of Disarmament.
- iii) Efforts made by UN towards Disarmament.
- iv) Efforts, Made outside the UN towards disarmament.

Books Recommended:

1. Curzon, Lord of Kedpeston : Forntiers.
2. Encyclopaedia Americana.
3. Encyclopaedia Britannica.
4. Oppenheim, L. International Law, Vol. I
5. Patel Satyavrata R., A Text Book of International Law.
6. Fenwick, Charles G., International Law.
7. Ghai, U.R., International Politics.
8. Mehta Narendra, International Relations.
9. Chandra, P., International Politics.
10. Naik, J.A., A Text Book of International Relations.
11. Morgenthau, Hans J., Politics among Nations.

SEMESTER – II
INTERNATIONAL RELATIONS: DEFENCE ASPECTS (PRACTICAL)

Time: 3 Hrs. **Total Marks: 20**
Written: 10
Practical: 05
Discussion Topics & Viva: 05

Instructions for the Examiners:

1. Examiners are required to set a question paper containing 10 marks of 1 hour duration in which he is supposed to set at least 3 questions of 5 marks each and students are required to attempt any two.
2. In the written practical Examination, choice in questions may be given to the students. The question paper is to be set at least half an hour before the examination.
3. Each student should be asked to deliver a talk/make short presentation for 5–10 minutes on any of the given topics.
4. Examiners should devote reasonable time for Viva–Voce Test and assess the practical record of a student.
5. For practical paper one group of Students will not comprise of more than 20 students at a time.

A. WRITTEN TEST

Time: 1 Hour **Marks: 10**

1. **Directions**
2. **North**
   a. Types of North and finding out True North
   b. The Pole Star Method
   c. The equal altitude method
   d. Watch method & Compass method.
3. **Scale**
   a. Definition,
   b. Methods of representing Scale.
   c. Inter–conversion of scale into Representative Fraction, construction of simple scale line and the comparative scale lines.

B. TOPICS FOR DISCUSSION/PRESENTATION: **Marks: 05**

a. The role of UN in peace keeping.
b. Collective Security System
c. Humanization of War

C. RECORD **Marks: 05**

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SEMESTER–I
MASS COMMUNICATION & VIDEO PRODUCTION

INTRODUCTION TO COMMUNICATION

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Settters:

Section–A: The examiner will set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10–15 sentences each. The total weightage of this Section will be 28 marks.

Section–B: The examiner will set 8 questions which will cover the entire syllabus. Candidate will attempt any 4 questions in at least 4–5 pages each. Each question will carry 18 marks. The total weightage of this Section will be 72 marks.

Communication:
* Meaning
* Definition
* Nature
* Need
* Process
* Functions
* Barriers
* 7c's of Communications

Types of Communication:
* Intrapersonal Communication
* Interpersonal Communication
* Group Communication
* Mass Communication
* Media Communication

Verbal & Non–Verbal Communication:

Traditional & Folk Media:

Models of Communication:
* Aristotle Model
* Lasswell Model
* Shannon & Weaver Model
* Wilbur Schramm Model
* Berlo's Model
* Gerbner's Model
* Dance's Model

Books Recommended:

Name	Author	Publisher
Mass Communication in India.	Kewal J. Kumar	Jaico, Bombay, 2004.
Mass Communication Theory & Practice	Uma Narula	Haranand, New Delhi, 1998.

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SEMESTER–II
MASS COMMUNICATION & VIDEO PRODUCTION

AUDIO VISUAL MEDIA

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: The examiner will set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10–15 sentences each. The total weightage of this Section will be 28 marks.

Section–B: The examiner will set 8 questions which will cover the entire syllabus. Candidate will attempt any 4 questions in at least 4–5 pages each. Each question will carry 18 marks. The total weightage of this Section will be 72 marks.

History & Development of Radio, T.V., Cinema & Cable in India organs of Information & Broadcasting Ministry

– Film & Television Institute of India
– National Film Archive of India
– Directorate of Advertising & Visual Publicity
– Directorate of Field Publicity
– Song & Drama Division
– Directorate of Film Festivals
– National Film Development Corporation
– Registrar of Newpapers for India
– Film Division

Print Media

– Characteristics
– Concept of News
– Elements of News
– Types of News – Steps of Writing News
– Sources of News
– Basics of News Reporting

Audio–visual Media Characteristics

Basics of Different formats for Radio & TV

– How to write for different Radio & TV formats
– Online Journalism

Books Recommended:

Title	**Author**	**Publisher**
Outline of M.K. Reporting	Joseph	Anmol Publications, 1997.
Radio & TV Journalism	Jan R. Hakemulder	Anmol Publications, New Delhi, 1998.
Radio & TV K.M. Journalism	Srivastava	Sterling Publications
Annual Report		I & B Ministry

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SEMESTER–I
JOURNALISM AND MASS COMMUNICATION

Time: 3 Hours **Max. Marks: 100**
Teaching Theory: 2 Hours (Per week)

Instructions for the Paper Setters:

Section–A: The examiner will set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10–15 sentences each. The total weightage of this Section will be 28 marks.

Section–B: The examiner will set 8 questions which will cover the entire syllabus. Candidate will attempt any 4 questions in at least 4–5 pages each. Each question will carry 18 marks. The total weightage of this Section will be 72 marks.

- Communication, Definition, Meaning, Nature need, Process and Functions.
- Types of Communication (Intrapersonal, Interpersonal, Group and Mass Communication).
- 7 C's of communication, barriers of communication.
- Verbal and Non–verbal Communication.
- Models of Communication: Aristotle, Shannon and Weaver, Wilbur Shramm, Lassewell and Berlo.
- Latest Trend (Internet)
- Invasion of satellite channels.

Books Recommended:

Name of the Book	Author	Publisher
Mass Communication in India	Keval J. Kumar	Jaico, Bombay.
Mass Communication, Thoery & Practical	Uma Narula	Harvard, N. Delhi.
Media Communication and Management	C.S. Rayudu	Himalaya.

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SEMESTER–II
JOURNALISM AND MASS COMMUNICATION

Time: 3 Hours **Max. Marks: 100**
Teaching Theory – 2 Hours (Per Week)

Instructions for the Paper Setters:

Section–A: The examiner will set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10–15 sentences each. The total weightage of this Section will be 28 marks.

Section–B: The examiner will set 8 questions which will cover the entire syllabus. Candidate will attempt any 4 questions in at least 4–5 pages each. Each question will carry 18 marks. The total weightage of this Section will be 72 marks.

Audio Visual Media

- Development of Radio, T.V., Cinema and Cab.
- Le in India over the years.
- Organs of I & B Ministry : FTII, NFAI, DAVP, Field Publicity, Song & Drama Division, Directorate of film festivals, NFDC, RNI, Film division.
- Fundamentals of hardware of electronic Media (Studios, Microphones, Recording equipements editing equipments).
- Print Media, its characteristics (News concept, elements, types, Basics of news reporting, Sources of news, hard and soft news, specialized reporting).
- Audio–visual media, its characteristics.
- Basics of different formats for Radio & TV.

Books Recommended:

Name of the Book	**Author**	**Publisher**
Professional Journalism	M.V. Kamath	Vikas
The Journalist's Handbook	M.V. Kamath	Vikas
Here is the News	Rangaswamy	Sterling
	Parthasarthy	Sterling
Basic News Writing	M. Mancher Book Stall	Universal
Journalism–A Guide To Freelancing	R.K. Murthy	Rallance

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(Faculty of Arts & Social Sciences)

SEMESTER–I
PUBLIC ADMINISTRATION

ADMINISTRATIVE THEORY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10–15 sentences each. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions two from each unit. The candidate shall attempt 4 questions in all, at least one from each unit. Each question carries 18 marks. The total weightage of this section shall be 72 marks.

Unit–I

Introduction– Meaning, nature and scope; Public Administration as an Art and a Science, Public Administration and Private Administration, Relationship of Public Administration with other social sciences – Political Science, Sociology, Economics, History, Psychology, Law. New Public Administration, New Public Management and Good Governance.

Unit–II

Organization– Meaning, Formal and Informal Organisation. Basic Principles of Organisation– Hierarchy, Span of control, Unity of Command; Centralization and Decentralization. Delegation, Coordination and Supervision.

Unit–III

Chief Executive– Meaning, Types & Functions, Line and Staff Agencies, Department, Public–Corporation and Independent Regulatory Commission, Delegated Legislation, Administrative Tribunals.

Unit–IV

Administrative Behaviour– Leadership, Communication, Decision making, Executive, Legislative, Judicial and Citizens, Control over Administration.

Suggested Readings:

1. Awasthi, Maheshwari S.R., Public Administration, Lakshmi Narain Aggarwal, Agra, 2004.
2. Basu Rumki, Public Administration: Concept and Theory, Sterling Publishers Pvt. Ltd., New Delhi, 1990.
3. Bhattacharya Mohit, Restructing Public Administration–Essays in Rehabiliation, IInd Edition, Jawahar Publishers and Distributors, New Delhi, 1999.
4. Kapoor Usha, Lok Prashashan–Sidhant Ate Vihar, Publication Bureau, Panjabi University, Patiala.
5. Puri K.K., Elements of Public Administration, (Punjabi). Bharat Prakashan, Jalandhar, 2004.
6. Sharma, M.P. and Sadana B.L., Public Administration, Kitab Mahal, Allahabad, 1993.
7. Sahib Singh and Swinder Singh, Public Administration: Theory and Practice, New Academic Publishers, Jalandhar, 1997.
8. White L.D., Introduction to the Study of Public Administration, Macmillan, New York, 1995.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–II
PUBLIC ADMINISTRATION

INDIAN ADMINISTRATION

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: The examiner shall set 10 questions. Candidate will attempt 7 questions carrying 4 marks in 10–15 sentences each. The total weightage of this section shall be 28 marks.

Section–B: The examiner shall set 8 questions two from each unit. The candidate shall attempt 4 questions in all, at least one from each unit. Each question carries 18 marks. The total weightage of this section shall be 72 marks.

Unit–I

Main Features of Indian Administration: Nature of Indian Federalism, Union–State Relations. Legislative, Administrative and Financial.

Unit–II

Central Administration: President, Prime Minister, PMO, Council of Ministers. Central Secretariate; Organisation and Functions, Cabinet Secretariate.

Parliament: Lok Sabha, Rajya Sabha, Speaker.

Judicial System: Supreme Court and High Court.

Unit–III

State Administration: Governor, Chief Minister, Council of Ministers, Chief Secretary, State Legislature. State Planning Commission.

Divisional and District Administration: Features, Functions and Role of Divisional Commissioner and Deputy Commissioner.

Unit–IV

Issues in Indian Administration: Relationship between permanent and political executive, Generalist versus specialist.

Suggested Readings:

1. Arora Ramesh K. and Goyal R., Indian Public Administration, Vishwa Prakashan, New Delhi, 2002.
2. Avasthi and Avasthi, Indian Administration, Lakhsmi Narain, Agra, 2000.
3. Bhagwan Vishnoo and Bhushan Vidya, Indian Administration, S. Chand & Company, New Delhi, 2000.
4. Fadia B.L. Fadia Kuldeep, Indian Administration, Sahitya Bhawan Publishers, New Delhi, 2005.
5. Hoshiar Singh, Indian Administration, Kitab Mahal, Allahabad, 2000.
6. Jain R.B. Contemporary Issues in Indian Administration, Vishal Publications, New Delhi, 1976.
7. Maheshwari S.R., Indian Administration, Orient Longman, New Delhi, 2000.
8. Maheshwari S.R., State Government in India, McMillan, New Delhi, 1979.
9. Sachdeva Pardeep, Bharti Prashasan, Publication Bureau, Panjabi University, Patiala, 2002.
10. D.D.Basu, Introduction to the Indian Constitution.

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SEMESTER–I
SOCIOLOGY

FUNDAMENTALS OF SOCIOLOGY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer questions with answers to each question upto five lines in length. All questions will be compulsory. Each question will carry two marks. Total weightage of the section being 20 marks.

Section–B: It will consist of short answer questions with answers to each question upto three pages in length or in 500 words. The examiner will set fifteen questions (at least 7 from each unit) and the candidate will attempt eight (four from each unit). Each question will carry ten marks. Total weightage of the section being 80 marks.

Unit–I

a) Meaning, Nature and Scope of Sociology
b) The Sociological Perspective
c) Social Sciences– Psychology, Anthropology, Economics and Political Science

Unit–II

a) Basic Concepts: Society, Community, Institution and Association
b) Social Groups: Definition, Characteristics and Types– Primary & Secondary, In group and Out group, Reference Groups.
c) Social Structure: Definition, Elements and Patterns, Norms and Values, Status and Roles.

References:

1. Ahuja, Ram: *Indian Social System*, Rawat Publications, Jaipur, 1993.
2. Abraham, M. Francis. : *Contemporary Sociology*, Oxford University, New Delhi, 2006.
3. Bottomore, T.B.S.: *Sociology*, Punjabi Translation by Parkash Singh Jammu, Publication Bureau, Punjabi University, Patiala, 1972.
4. Davis, Kingsley: *Human Society*, Punjabi Translation by Parkash Singh Jammu, Publication Bureau, Punjabi University, Patiala, 1971.
5. Gisbert, Pascual: *Fundamentals of Sociology*, Orient Longmans, Bombay, 1969.
6. Jayaram, N. *Introductory Sociology*, Macmillan, Madras, 1988.
7. Johnson, H.M. Sociology: *A Systematic Introduction*, Allied Publishers, New Delhi, 1995.
8. Kapila, S.: *A Text Book of Sociology*, Part–I & II, New Academic House, Jalandhar, 1989.
9. Kapila, S.: *Fundamentals of Sociology*, Vol. I. Panchkula, Kapila Publishers, 2001.
10. Koening, Samuel: *Sociology, An Introduction to the Science of Society*, Punjabi Translation by Baldev Singh, Publication Bureau, Punjabi University, Patiala.
11. McGee, Reece et al., *Sociology–An Introduction*, Reinehart and Winston, Hindale, 1977.
12. Murdock, George Peter: *Social Structure*, Free Press, New York, 1965.
13. MacIver, R.M. & Page, Charles H.: *Society*, *An Introductory Analysis*, Macmillan, London, 1974.
14. Savinderjeet Kaur: *Samaj Vigyan Nal Jan Pehchan*, Publication Bureau, Punjabi University, Patiala, 1995.
15. Sharan, Raka: *A Handbook of Sociology*, Anmol Publications, New Delhi, 1991.

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SEMESTER–II
SOCIOLOGY

FUNDAMENTALS OF SOCIOLOGY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A It will consist of 10 very short answer questions with answers to each question upto five lines in length. All questions will be compulsory. Each question will carry two marks. Total weightage of the section being 20 marks.

Section–B It will consist of short answer questions with answers to each question upto three pages in length or in 500 words. The examiner will set fifteen questions (at least 7 from each unit) and the candidate will attempt eight (four from each unit). Each question will carry ten marks. Total weightage of the section being 80 marks.

Unit – I

a) Socialization: Meaning, Processes, Agencies and Theories of self (C.H.Cooley, G.H.Mead, Sigmund Freud)
b) Culture : Meaning, Elements, Cultural lag
c) Social Stratification : Meaning and Forms.

Unit – II

a) Social Control; Meaning, Agencies : Formal and Informal
b) Formal: Law, Informal: Folkways, Mores, Customs, Public Opinion, Propaganda
c) Deviance: Crime, Anomie, Terrorism

References:

1. Ahuja, Ram: *Indian Social System*, Rawat Publications, Jaipur, 1993.
2. Abraham, M. Francis.: *Contemporary Sociology*, Oxford University, New Delhi, 2006.
3. Bottomore, T.B.S.: *Sociology*, Punjabi Translation by Parkash Singh Jammu, Publication Bureau, Punjabi University, Patiala, 1972.
4. Gisbert, Pascual: *Fundamentals of Sociology*, Orient Longmans, Bombay, 1969.
5. Jayaram, N. *Introductory Sociology*, Macmillan, Madras, 1988.
6. Johnson, H.M. Sociology: *A Systematic Introduction*, Allied Publishers, New Delhi, 1995.
7. Kapila, S.: *A Text Book of Sociology*, Part–I & II, New Academic House, Jalandhar, 1989.
8. Kapila, S.: *Fundamentals of Sociology*, Vol. I. Panchkula, Kapila Publishers, 2001.
9. McGee, Reece et al., *Sociology–An Introduction*, Reinehart and Winston, Hindale, 1977.
10. MacIver, R.M. & Page, Charles H.: *Society*, *An Introductory Analysis*, Macmillan, London, 1974.
11. Savinderjeet Kaur: *Samaj Vigyan Nal Jan Pehchan*, Publication Bureau, Punjabi University, Patiala, 1995.
12. Sharan, Raka: *A Handbook of Sociology*, Anmol Publications, New Delhi, 1991.

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SEMESTER–I
PSYCHOLOGY

BASIC PSYCHOLOGICAL PROCESSES–I

Time: 3 Hours **Total Marks: 100**
Lectures: 75 **Theory Marks: 75**
Pass Marks: 35% of the subject **Practical Marks: 25**
(Theory and Practical Separately)

Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer type questions with answers to each question up to five lines in length. All questions will be compulsory. Each question will carry 1½ marks; total weightage of the section being 15 marks.

Section–B: It will consist of short answer type questions with answers to each question up to two pages in length. Six questions will be set by the examiner and four will be attempted by the candidates. Each question will carry 9 marks: total weightage of the section being 36 marks.

Section–C: It will consist of essay type questions with answer to each question up to five pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two; total weightage of the section being 24 marks. The questions are to be set to judge the candidates' basic understanding of the concepts.

Note:

1. The use of Non–Programmable calculators and Statistical Tables are allowed in the examination.
2. Only one numerical question is to be set either of nine marks (from Section–B) or of twelve marks (from Section–C).

Nature: Psychology as a Science, Historical background of psychology with brief introduction to schools (Structuralism, Functionalism, Psychoanalysis, Behaviourism, Gestalt, Humanistic and Cognitive).

Methods: Introspection, Observation, Experiment, Case Study, Interview and Questionnaire.

Understanding Individual Differences: Nature and uses of Psychological Tests. Characteristics of Good Psychological Tests, Types of Psychological Tests (Verbal vs Non–verbal test, Individual vs Group, Speed vs power tests, Paper and Pencil Tests vs Performance Tests, Essay vs objective type Tests), Ethical issues in Psychological Testing.

Learning: Introduction to learning, Nature and characteristics of learning process. Trial and Error learning & Insight. A brief introduction to the concepts of Classical and Instrumental conditioning (Paradigm and the typical experiments), Verbal learning (Nature & factors), Social/observational learning.

Intelligence: Nature of Intelligence Theories (Spearman and Thurstone), Cognitive Theories (Gardener and Sternberg). Concept of Emotional Intelligence, Nature and Nurture issue in intelligence.

Measures of Central Tendency: Meaning and Characteristics of good measure of central tendency. Measures of central tendency: Arithmetic Mean, Median, Mode with their merits and demerits.

Text Books for Readings:

1. Benjamin, Jr. L.T., Hopkings, J.R. & Nation, J.R. (1987). *Psychology*. Mcmillan Publishing Company, New York.
2. Chaplin, J.R. & Kraiwic, T.S. (1985). *Systems and Theories of Psychology.* Holt, Rinehart and Winston, Inc., New York.
3. Crooks, R.L. & Strin, J. (1988). *Psychology; Sciences: Behaviour and Life*. Holt Rinehart and Winston, Inc., New York.
4. Morgan, G.T., King, P.A., Weisz, T.R. & Schopler, J. (1999). *Introduction to Psychology*. Mcgraw Hill Book Co., New York.
5. Baron, R.A. (1996). *Psychology.* New Delhi: Prentice Hall of India.
6. Carlson (2007). *Foundation of Physiological Psychology*. Pearson Education, New Delhi.
7. Aron (2007). *Statistics for Psychology*. Pearson Education, New Delhi.

SEMESTER–I
PSYCHOLOGY

PRACTICAL

Total No. of Periods: 40 **Marks: 25**

Instructions for the Practical Examination:

Students are supposed to perform five practicals out of 6 mentioned in the syllabus. Practical examination will be of 2 hours duration. External examiner will conduct the practical examination. The students will perform one practical in the exam carrying 25 marks. Evaluation of the practical would be done on the basis of write–up of file book (5 Marks), performance and viva–voce (20 Marks) relating to the practicals. In case students have not completed 5 practicals, the examiner will deduct marks at the rate of 5 for each left practical out of total evaluation of the student. No reappear will be allowed in the practical examination. Fail in the practical will be considered fail overall in the subject.

Five Practicals have to be performed out of the following:

1. Simple Reaction Time
2. Verbal Test of Intelligence.
3. Nonverbal test of Intelligence.
4. Performance Test of Intelligence
5. Trial and error Learning.
6. Effect of Practice on Learning.

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SEMESTER–II
PSYCHOLOGY

BASIC PSYCHOLOGICAL PROCESSES–II

Time: 3 hours **Total Marks: 100**
Lectures: 75 **Theory Marks: 75**
Pass Marks: 35% of the subject **Practical Marks: 25**
(Theory and Practical Separately)

Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer type questions with answers to each question up to five lines in length. All questions will be compulsory. Each question will carry 1½ marks; total weightage of the section being 15 marks.

Section–B: It will consist of short answer type questions with answers to each question up to two pages in length. Six questions will be set by the examiner and four will be attempted by the candidates. Each question will carry 9 marks: total weightage of the section being 36 marks.

Section–C: It will consist of essay type questions with answer to each question up to five pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two; total weightage of the section being 24 marks. The questions are to be set to judge the candidates' basic understanding of the concepts.

Note:
1. The use of Non–Programmable calculators and Statistical Tables are allowed in the examination.
2. Only one numerical question is to be set either of nine marks (from Section–B) or of twelve marks (from Section–C).

Biological Bases of Behaviour:
Nervous System (Central and Peripheral), Glands (Endocrine and Exocrine), Neuron (Structure and function), Resting and Action Potentials. Synapse, Types of synapse.

Memory: Nature, Encoding, Storage and Retrieval. Types of memory–sensory, short–term and long term.

Motivation and Emotion: Biogenic and Sociogenic motives, instincts, Drives and incentives. Intrinsic–Extrinsic framework. Content Theory, The need Hierarchy model, Conflicts and Frustration. Emotions: Development and Types of emotions. Theories of Emotions (James Lange & Cannon Bard Theory). Physiological Correlates of Emotions.

Personality: Concept of Personality. Theories of Personality (Freud, Allport, Murray, Cattell & Eysenck). Techniques of Assessment (Psychometric and Projective)

Measures of Variability: Meaning and Characteristics of good measure of variability, Measures of variability– Range, Quartile Deviation, Average, Standard Deviation, Variance with their merits and demerits.

Text Books for Reading:

1. Benjamin, Jr. L.T., Hopkings, J.R. & Nation, J.R. (1987). *Psychology*. Mcmillan Publishing Company, New York.
2. Chaplin, J.R. & Kraiwic, T.S. (1985). *Systems and Theories of Psychology.* Holt, Rinehart and Winston, Inc., New York.
3. Crooks, R.L. & Strin, J. (1988). *Psychology; Sciences: Behaviour and Life*. Holt Rinehart and Winston, Inc., New York.
4. Morgan, G.T., King, P.A., Weisz, T.R. & Schopler, J. (1999). *Introduction to Psychology*. Mcgraw Hill Book Co., New York.
5. Baron, R.A. (1996). *Psychology.* New Delhi: Prentice Hall of India.
6. Aron (2007). *Statistics for Psychology*. Pearson Education, New Delhi.
7. Coon, D.L., & Mitterer, J.O. (2007). *Introduction to Psychology; Gateways to Mind and Behaviour*. Thomson Wadrwoth.
8. Solso (2007). *Cognitive Psychology*. Pearson Education, New Delhi.
9. Hall, S.S. & Lindzey (1969). *Theories of Personality*. Wiley Eastern Ltd. New Delhi.
10. Pinel (2007). *Biopsychology*. Pearson Education, New Delhi.

SEMESTER–I
PSYCHOLOGY

PRACTICAL

Total No. of Periods: 40 **Marks: 25**

Instructions for the Practical Examination:

Students are supposed to perform five practicals out of 6 mentioned in the syllabus. Practical examination will be of 2 hours duration. External examiner will conduct the practical examination. The students will perform one practical in the exam carrying 25 marks. Evaluation of the practical would be done on the basis of write–up of file book (5 Marks), performance and viva–voce (20 Marks) relating to the practicals. In case students have not completed 5 practicals, the examiner will deduct marks at the rate of 5 for each left practical out of total evaluation of the student. No reappear will be allowed in the practical examination. Fail in the practical will be considered fail overall in the subject.

Five Practicals have to be performed out of the following:

1. Effect of Knowledge of Results on Performance.
2. Measurement of Motivation through drive induction or level of aspiration.
3. Projective techniques–incomplete sentence Blank.
4. Personality Inventory
5. Memory Span.
6. Public opinion survey.

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SEMESTER – I
GEOGRAPHY

PHYSICAL GEOGRAPHY – I: GEOMORPHOLOGY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 70
Practical Marks: 30

Instructions for the Paper Setters:

1. A compulsory question containing 15 short answer type questions will be set covering the whole syllabus. The students will attempt any 10 parts in about 40–50 words each. Each part will carry 3 marks (Total 30 marks).
2. The whole syllabus will be divided into 4 units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt one question from each unit. Each question carrying 10 marks. These will be in addition to the compulsory question at Serial Number 1 (Total 40 marks).
3. Special credit will be given to suitable use of maps and diagrams.

Objective: The objective of this paper is to introduce the basic concepts in the physical geography, essentially geomorphology to the students of geography in a brief but adequate manner.

Unit–I

Geography: Definition, place of physical geography within the discipline of geography, division of physical geography–geomorphology, climatology, oceanography. Theories of the Origin of the Earth: Kant, Laplace and Jeans & Jeffreys.
Interior of the Earth: Constitution, structure and composition, continental drift (with special reference to Wegener's theory and Plate Tectonics), isostasy.

Unit–II

Movements of the Earth: Orogenic, epeirogenic movements; landforms resulting from forces of compression and tension: folding and faulting; mountain building theories (Geosyncline, Convection Current), earthquakes and volcanoes (causes, types and distribution).

Unit–III

Rocks: Their origin, classification and characteristics.
Major Landforms: Mountains, plateaus and plains in the world.
Geomorphic Agents: Geomorphic processes (weathering and erosion).

Unit–IV

Geomorphological Landscapes: Fluvial, glacial, aeolian, volcanic, coastal, Karst.
Applied Geomorphology: Applications to transport, landuse, earthquake disaster and its management.

Books Recommended:

1. Chawla, I.N. : *Bhautik Bhugol (in Punjabi)*, Bharat Prakashan, Jalandhar.
2. Dayal, P. : *A Text Book of Geomorphology*, Shukla Book Depot, Patna, 1995.
3. Dury, G.H. : *The Face of the Earth Penguin*, Middlesex, England, 1973.
4. Gass, I.G. : *Understanding the Earth*, The Artemrs Press, Sussex, 1973.
5. Holmes Arthur: *Principles of Physical Geology*, Thomas Nelson & Sons, Ltd., New York, Latest Edition.
6. Kale, V. and Gupta A. : *Elements of Geomorphology*, Oxford University Press, Calcutta, 2001.
7. Kaur Dhian : *The Earth*, Edited by R.C. Chandna, Kalyani Publishers, Ludhiana, Delhi, 2000.
8. Nizamuddin : *An Introduction to Physical Geography*, Concept, New Delhi, 2001.
9. Mamoria, C.P. and Niati, J.L : *Bhautik Bhugol Ke Tatwa (in Hindi)* Agra, 1976.
10. Monkhouse, F.J. : *Principles of Physical Geography*, Orient Longman, New Delhi, Latest Edition.
11. R.N. Tikha : *Physical Geography*, New Academic Publishing Co., Jalandhar.
12. Singh, Pritam & Bhatia S., *Bhautik Bhugol De Adhaar*, Punjabi University Publication, Patiala.
13. Singh, Savinder: *Physical Geography*, Gynodya Parkashan Gorakhpur, 1994.
14. Sparks, B.W. : *Geomorphology*, Longman, London, 1986.
15. Strahler, A.N. & Strahler A.H. : *Modern Physical Geography*, John Wiley, New York, 1992.
16. Thornbury, W.D. : *Principles of Geomorphology*, Second Edition, Wiley Eastern Ltd., New Delhi, 1993.
17. Singh Malkiat : *Principles of Physical Geography*, Rasmeet Parkashan, Jalandhar.

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SEMESTER – I
GEOGRAPHY

PHYSICAL GEOGRAPHY–I: GEOMORPHOLOGY (PRACTICAL)
CARTOGRAPHY – I

Time: 3 Hours **Total Marks: 30**

Written Paper of 3 Hours: 15 Marks
Practical Record (File): 08 Marks
Viva: 07 Marks

Objective:
Geography is an amalgam of physical as well as social sciences and as such it is necessary for the students to go through laboratory exercises, particularly to show directions and bearings and different methods of representing relief. The concept of scale is to be understood in the initial stage and also different methods of representing relief.

Unit–I

Maps and Scale: History of Cartography and types of maps, Scales: types of scales, methods of construction of graphic scales–plain scales, diagonal scales and comparative scales–different units, time scales.

Unit–II

Representation of Relief: Spot heights, Trignometrical stations, Bench Marks, from Lines, Contours, Hachures, Hill–shading and Layer tints.

Note:

1. A compulsory question containing 10 short answer type questions will be set covering the whole syllabus. The students will attempt 6 short answer type questions in about 25–30 words each. Each short answer type question will carry ½ mark (Total 3 marks).
2. The whole syllabus will be divided into 2 units. Eight questions will be set out of the whole syllabus, four from each unit. The students will be required to attempt two questions from each unit. Each question will carry 3 marks. These will be in addition to the compulsory question at serial number 1. (Total 12 marks)
3. Evaluation of Practical record will be done at the time of viva–voce examination. A minimum of 12 sheets are to be prepared by the students in each semester.
4. In case the candidate has applied for the improvement, he/she should be required to make a fresh practical note book.
5. For practical classes, the number of students in one group shall not exceed fifteen.

Recommended Books:

Essential Readings:

1. Khullar, D.R.: *Essentials of Practical Geography*, New Academic Publishing Co., Mai Hiran Gate, Jalandhar, 2000.
2. Singh, Gopal : *Mapwork and Practical Geography*, Vikas Publishing House, Pvt. Ltd., New Delhi, 1995.
3. Singh L.R. & Singh, Raghunandan : *Mapwork and Practical Geography*, Central Book Depot, Allahabad, 1993.
4. Phyllis Dink : *Mapwork*, Atma Ram & Sons

Further Readings:

1. Mishra, R.P. & Ramesh, A.: *Fundamental of Cartography*, Concept Publishing Co., New Delhi, 1989.
2. Monkhouse, F.J. & Wilkinson, H.R.: *Maps and Diagrams*, Methuen & Co., London, Third Edition, 1976.
3. Robinson, A.H. & Randall, D. Sale: *Elements of Cartography*, John Wiley & Sons, New York, (Sixth Edition), 1995.

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SEMESTER – II
GEOGRAPHY

PHYSICAL GEOGRAPHY – II: CLIMATOLOGY & OCEANOGRAPHY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 70
Practical Marks: 30

Instructions for the Paper Setters:

1. A compulsory question containing 15 short answer type questions will be set covering the whole syllabus. The students will attempt any 10 parts in about 40–50 words each. Each part will carry 3 marks (Total 30 marks).
2. The whole syllabus will be divided into 4 units. Eight questions will be set out of the whole syllabus, 2 from each unit. The students will be required to attempt one question from each unit. Each question carrying 10 marks. These will be in addition to the compulsory question at serial number 1 (Total 40 marks).
3. Special credit will be given to suitable use of maps and diagrams.

Objective:
The objective of this paper is to acquaint the students with the elements and attributes of climatology and oceanography as climate plays a very vital role in human life and oceans are storehouses of resources.

Unit–I

Definition of Climatology: Climate and Weather.
Climate: Elements and controls.
Physical structure of the atmosphere and attributes of different layers, Physical and Chemical composition of the atmosphere: Dust particles, vapour particles, active gases, inert gases.
Insolation and Temperature: Horizontal distribution of insolation, factors affecting temperature of a place, vertical and horizontal and annual, seasonal and diurnal distribution of temperature.

Unit–II

Atmospheric Pressure and Winds Distribution: Atmospheric disturbances (Tropical cyclones, temperate cyclones and anticyclones).
Atmospheric Moisture: Forms of condensation – Cloud, dew, fog and frost. Precipitation forms and types. World patterns of precipitation: Spatial and seasonal.
Climatic Classifications and their Bases: Elementary discussion of Koppen's classification of climates and climatic types.
Role of Climate in Human Life: Atmospheric pollution and global warming – general causes, consequences and measure of control.

Unit–III

Oceanography: Definition, topography of the ocean basins; continental shelf, continental slope, deep sea plain and oceanic deep. ***Features:*** Trench, trough, oceanic ridge, guyots, seamount. Factors controlling the world patterns of distribution of temperature and salinity in the ocean waters.

Unit–IV

Movements of Oceanic Waters: Waves and currents. Surface currents of the oceans. Marine Flora, Fauna and Deposits, Corals. Ocean as storehouse of resources for the future.

Recommended Books:

1. Bhutani, Smita : *Our Atmosphere*, Edited by R.C. Chandna, Kalyani Publishers, Ludhiana, Delhi, 2000.
2. Critchfield, H.J. : *General Climatology*, Prentice Hall of India, Private Ltd., New Delhi, 1975.
3. Gross, Grant, M. : *Oceanography : A View of the Earth*, Prentice Hall, New Jersey, 1987.
4. Lal, D.S. : *Climatology*, Chainnya Publishing House, Allahabad, 1989.
5. Mathew, J.R. : *Climatology*, McGraw Hill, New Latest Edition.
6. Monkhouse, F.J. : *The Principles of Physical Geography*, University of London Press, London Latest Edition.
7. Pattersen, S. : *Introduction to Meterorology*, McGraw Hill Book Co., London,Latest Edition.
8. Stringer, E.T. : *Foundations of Climatology*. Subject Publications, Delhi, 1982.
9. Trewartha, G.T. : *An Introduction to Climate*, McGraw Hill Book Co., New Delhi, International Student Edition, 1980.
10. Khan, N. : *An Introduction to Physical Geography*. Concept New Delhi,2001.
11. King, C.A.M. : *Beaches and Coasts*, E. Arnold, London, 1959.
12. King, C.A.M. : *Oceanography*, E. Arnold, London, Latest Edition.
13. Sharma, R.C. & M. Vatel: *Oceanography for Geographers*, Chetyna, Allahabad 1970.
14. Shepar, F.P. : *Submarine Geology*, Harper & Sons, New York, 1948.
15. Sverdrup, H.U. et.al. : *The Oceans*. Prentice Hall, New Jersey, U.S.A. 1959.
16. Singh, Savinder: *Physical Geography*, Gynodya Parkashan Gorakhpur, 1994.

SEMESTER – II
GEOGRAPHY

PHYSICAL GEOGRAPHY–II: CLIMATOLOGY AND OCEANOGRAPHY
CARTOGRAPHY – II

Time: 3 Hours **Total Marks: 30**

Written Paper of 3 Hours: 15 Marks
Practical Record (File): 08 Marks
Viva: 07 Marks

Objectives:
Geography is an amalgam of physical as well as social sciences and as such it is necessary for the students to go through laboratory exercises particularly to show directions and bearings and different methods of representing relief. Knowledge of directions and bearings is essential and an introduction to weather maps is also required.

Unit–I

Bearings, Enlargement and Reduction:
Direction and Bearings: Plotting of a course, true north, magnetic north, finding true north with the pole star, a watch and a rod; bearing and its conversion.
Enlargement and Reduction: Graphic methods–square and triangle; instrumental methods–Pantographic, Xeroxing photographic.

Unit–II

Weather Maps:
General Introduction to the study of weather maps, the scheme of weather symbols including Beaufort's scale employed in Indian daily weather maps; weather in India: summer season (period of summer monsoon), winter season, forecasting of weather through the study of weather maps and recent advances in weather forecasting.

Note:
1. A compulsory question containing 10 short answer type questions will be set covering the whole syllabus. The students will attempt 6 short answer type questions in about 25–30 words each. Each short answer type question will carry ½ mark (Total 3 marks).
2. The whole syllabus will be divided into 2 units. Eight questions will be set out of the whole syllabus, four from each unit. The students will be required to attempt two questions from each unit. Each question will carry 3 marks. These will be in addition to the compulsory question at serial number one. (Total 12 marks)
3. Evaluation of Practical record will be done at the time of viva–voce examination. A minimum of 12 sheets are to be prepared by the students in each semester.
4. In case the candidate has applied for the improvement, he/she should be required to make a fresh practical note book.
5. For practical classes, the number of students in one group shall not exceed fifteen.

Recommended Books:

Essential Readings:

1. Khullar, D.R.: *Essentials of Practical Geography*, New Academic Publishing Co., Mai Hiran Gate, Jalandhar, 2000.
2. Singh, Gopal : *Mapwork and Practical Geography*, Vikas Publishing House, Pvt. Ltd., New Delhi, 1995.
3. Singh L.R. & Singh, Raghunandan : *Mapwork and Practical Geography*, Central Book Depot, Allahabad, 1993
4. Phyllis Dink : *Mapwork*, Atma Ram & Sons.

Further Readings:

1. Mishra, R.P. & Ramesh, A.: *Fundamental of Cartography*, Concept Publishing Co., New Delhi, 1989.
2. Monkhouse, F.J. and Wilkinson, H.R. : *Maps and Diagrams*, Methuen & Co., London, Third Edition, 1976.
3. Robinson, A.H. & Randall, D. Sale : *Elements of Cartography*, John Wiley & Sons, New York, (Sixth Edition), 1995.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–I
FINE ARTS

FINE ARTS (DRAWING & PAINTING)

Instructions for the Paper Setters:

Paper A:	Theory	(40 Marks)
Paper B:	Practical – Still **Life**	(25 Marks)
Paper C:	Practical – Letter **Writing**	(25 Marks)
Internal Assessment–for two practicals/sessional work		(10 Marks)
		Total: 100 Marks

OUTLINES OF TEST

NOTE:

(a) 40 Marks for the theory paper and 25 marks for each practical and 10 marks for internal assessment on the basis of sessional work submitted by the student shall be assessed by the teacher concerned.

(b) The question paper will cover the entire syllabus.

(c) Questions should be based on world famous painting and sculptures whose slides are easily available.

(d) Question paper should cover the syllabus uniformly.

(e) The paper setter should set the paper in two sections, A and B.

(f) The division of the marks will be as under:

Section–A: 15 marks for 10 short answer questions. Each question carries 1 ½ marks.

Section–B: 25 marks for 5 questions. The examiner will set 8 questions. The candidate will attempt 5 questions of 5 marks each. Compartment candidates in the subject of Fine Arts will appear only in theory paper during supplementary exam. Previous marks of practical paper will be considered for the aggregate.

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SEMESTER–I
FINE ARTS

PAPER–A: HISTORY OF INDIAN PAINTING (THEORY)

Time: 3 Hrs. **Marks: 40**

1. **Pre–historic Paintings: Bhim Bhetka Caves**
2. **Six limbs of Indian Painting (Shadanga)**
3. **Elements of Art**
4. **Principles of Art**
5. **Ajanta Paintings**
   - (i) Boddhisatva Padampani
   - (ii) Mother and child before Buddha
   - (iii) Chhadanta Jataka
   - (iv) Dying Princess
   - (v) Dream of Maya
6. **Sculptures of Indus Valley**
   - (i) Dancing Girl
   - (ii) Priest
   - (iii) Mother Goddess
   - (iv) Pashupati Seal

SEMESTER–I
FINE ARTS

PAPER–B: STILL LIFE (DRAWING) (PRACTICAL)

Time: 5 Hrs **Marks: 25**

Objects to Study: Proportion, Volume, Texture, Study of Light and Shade.

Number of Objects: Three objects excluding drapery.

Medium: Oil/Water/Pastel Colours

Size: ½ Imperial

Time: 5 Hrs **PAPER–C: LETTER WRITING (PRACTICAL)** **Marks: 25**

Study of different styles of alphabets

Creative writing of different styles

Language: Any

Medium: Poster Colours/Indian Ink

Size: ½ Imperial

Design (Textile) – Design should be based on natural, decorative and geometrical motifs.

(Border, Corner, allover designs should be submitted).

Medium – Fabric Colours on cloth.

Candidates will submit:–

(i) 5 sheets of still life, 3 Designs on cloth, 3 sheets of letter writing on different creative styles

(ii) Sketch book containing 50 sketches.

Note: The paper setter should set the Paper C only on letter writing. The topic will be given by two examiners.

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SEMESTER–II
FINE ARTS

FINE ARTS (DRAWING & PAINTING)

Instructions for the Paper Setters:

Paper A:	Theory	(40 Marks)
Paper B:	Practical–Still Life	(25 Marks)
Paper C:	Head Study	(25 Marks)
Internal Assessment–for two practicals/sessional work		(10 Marks)
		Total: 100 Marks

OUTLINES OF TEST

NOTE:

(a) 40 Marks for the theory paper and 25 marks for each practical and 10 marks for internal assessment on the basis of sessional work submitted by the student shall be assessed by the teacher concerned.

(b) The question paper will cover the entire syllabus.

(c) Questions should be based on world famous painting and sculptures whose slides are easily available.

(d) Question paper should cover the syllabus uniformly.

(e) The paper setter should set the paper in two sections, A and B.

(f) The division of the marks will be as under:

Section–A: 15 marks for 10 short answer questions. Each question carries 1½ marks.

Section–B: 25 marks for 5 questions. The examiner will set 8 questions. The candidate will attempt 5 questions of 5 marks each. Compartment candidates in the subject of Fine Arts will appear only in theory paper during supplementary exam. Previous marks of practical paper will be considered for the aggregate.

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SEMESTER–II
FINE ARTS

FINE ARTS (DRAWING & PAINTING)

Time: 3 Hrs. **PAPER–A (THEORY)** **Marks: 40**

HISTORY OF INDIAN PAINTING

1. **Mauryan Sculptures:**
   - (i) Lion Capital of Sarnath
   - (ii) Bull Capital from Rampurva
   - (iii) Yakshi from Didarganj
   - (iv) Yaksha from Parkham

2. **Bharhut Sculptures:**
   - (i) Dream Of Queen Maya
   - (ii) Cholakoka Devata

3. **Sanchi Stupa (**Eastern Gate)**:**
   - (i) Ruru Jataka

4. **Kushana Period:**
   - (A) Mathura Art
   - (i) Portraits–Kanishka and Vima Kadaphises
   - (ii) Seated Buddha from Katra
   - (iii) Head of Buddha
   - (B) Gandhara Art
   - (i) Standing Bodhisattava

SEMESTER–II
FINE ARTS

PAPER–B: STILL LIFE STUDY
(PRACTICAL)

Time: 5 Hrs **Marks: 25**

Study different type of still objects. Emphasis should be given to Proportion, Volume, Texture and light and shade.

Number of Objects: Three excluding drapery.

Medium: Any Medium

Size: ½ Imperial

Time: 5 Hrs **PAPER–C: HEAD STUDY (MALE/FEMALE)** **Marks: 25**
(PRACTICAL)

Study of skulls and Anatomy of human head.

Medium: Charcoal or Pencil

Size: ½ Imperial

Candidates will submit:–

(i) 5 sheets of each paper.

(ii) Sketch book containing 50 sketches.

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SEMESTER–I

HISTORY OF ART

Time: 3 Hours **Max. Marks: 100**

Note: (a) The question paper should cover entire syllabus. It may contain very specific short answer questions.

(b) The paper–setter should set 15 questions in all. Students will attempt 10 questions of 10 marks each.

(c) The questions can be repeated from the previous question paper.

PART – I

History of Indian Mural Painting from earliest time to C 9th Century A.D. Pre–historic painting: the cave shelters of Central India; Ajanta, Bagh, Badami, Sittanavasal and Ellora.

PART – II

History of Indian Sculpture from the earliest times to 3rd century A.D. Indus Valley; Mauryas; Bharhut; Sanchi; Amaravati; Nagar Junikonda; Mathura under the Kushana Gandhara.

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SEMESTER–II

HISTORY OF ART

Time: 3 Hours **Max. Marks: 100**

Note: (a) The question paper should cover entire syllabus. It may contain very specific short answer questions.

(b) The paper–setter should set 15 questions in all. Students will attempt 10 questions of 10 marks each.

(c) The questions can be repeated from the previous question paper.

PART – I

History of European Painting & Sculpture from earliest times to C. 1300 A.D. Egypt; Greek; Rome, Art of Early Christian period and Gothic Period.

PART – II

Theory and Principles of Art, appreciation, Explanation through illustrations, the concepts of space, line, colour, form, texture, light and shade design, balance, harmony, composition, perspective; foreshortening, Mural technique: Fresco & Tempera.

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SEMESTER–I

SCHEME
GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)

Total Marks: 100
Paper–A: Theory Marks: 50
Paper–B: Practical: External Marks: 40
Internal Marks: 10

Time: 3 Hrs. **Marks: 50**

PAPER–A: (THEORY)

Instructions for the Paper Setters:

Section–A: Ten questions will be set by the examiners. All questions are compulsory. Each question carries 2 marks. Total weightage of this section shall be 20 marks.

Section–B: Five Questions will be set by the examiner and the candidate will attempt any three questions of 10 marks each. The total weightage of this section is of 30 marks.

1. Brief history of Jewellery of

   (i) Indus Valley,
   (ii) Shunga period,
   (iii) Gupta Period,
   (iv) Mughal period.

2. Introduction to Jewellery – (i) Fine Jewellery (ii) Costume Design Jewellery
3. Indian Tribal Jewellery
4. Symbolic Jewellery of South India

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SEMESTER–I

GEMOLOGY & JEWELLERY DESIGN (VOCATIONAL)

PAPER–B: DESIGN (PRACTICAL)

Time: 5 Hours **Total Marks: 50 (Ext.: 40) + (Int.:10)**

1. Exercises on
   i) Pencil Control
   ii) Drawing & Shading in 2 Dimensional and 3 Dimensional objects
   iii) Motif development for jewellery design
2. Development of Plain and Simple Design for necklaces, pendants, earrings
3. Collecting and recognizing forms for designing and using them in their designs

(Medium–Watercolour pencils)

Each student has to submit 20 designs of necklace with earrings, pendent sets, and other accessories at the end of semester.

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SEMESTER–II

SCHEME
GEMOLOGY AND JEWELLERY DESIGN (VOCATIONAL)

Total Marks: 100
Paper–A: Theory Marks: 50
Paper–B: Practical: External Marks: 40
Internal Marks: 10

Time: 3 Hrs. **Marks: 50**

PAPER–A: (THEORY)

Instructions for the Paper Setters:

Section–A: Ten questions will be set by the examiners. All questions are compulsory. Each question carries 2 marks. Total weightage of this section shall be 20 marks.

Section–B: Five Questions will be set by the examiner and the candidate will attempt any three questions of 10 marks each. The total weightage of this section is 30 marks.

1. Introduction to Metals:– Precious–Gold, Silver, Platinum Semi–Precious–Iron, Copper Their Chemical Detail, Occurrence, Availability
2. Chemical & Physical properties of metals
3. Tendency of (above mentioned) Precious and Semi–precious metals to form Alloys
4. Properties of Metals–Lustre, Ductility, Malleability, Conductors
5. Introductory definitions of Jewellery manufacturing– Mark Making, Piercing, Filling, Soldering, Form–making, Engraving, Acid – Etching
6. Nature of Gemstones (General view)
7. Organic Gemstone (Mineral Gemstone), Inorganic Gemstones, Synthetic gemstones
8. Formation of Gemstones in various rocks–Igneous Rocks, Sedimentary Rocks and Metamorphic Rocks

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SEMESTER–II

GEMOLOGY & JEWELLERY DESIGN (VOCATIONAL)

PAPER–B: INNOVATIVE JEWELLERY DESIGN

Time: 5 Hours

Marks: 50 (Ext.: 40)+(Int.: 10)

Exercises on:

i) Learning basic techniques of jewellery making like jump–ring, threading of beads, etc.

ii) Different techniques and methods of creating jewellery and accessories like wearable belts, hair accessories using innovative materials like paper, plastic, jute, threads, wires, beads, macramé, etc.

Each student has to submit 20 such pieces of jewellery and accessories at the end of second semester.

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SEMESTER–I & II

STILL PHOTOGRAPHY & AUDIO PRODUCTION

Examination Scheme:

Total Papers Offered: Two
Total Practical Papers Offered: One
Total Theory Papers Offered: One
Extra weightage will be given for Creative and Professional Approach.
All the Practical papers carry equal marks.
Internal Assessment in each subject will be given by the internal examiner / Class teacher.
Total Marks Offered: 100 (One Hundred)

	Sr.	Paper	Time Duration	Hours	Marks	Internal Assessment	Total Marks
	1	Paper I : Theory	–	3 Hrs	50	–	50
Semester–I	2	Paper II (Practical) : Basic Photography	1 Day	6 Hrs	40	10	50
						Total:	**100**

	Sr.	Paper	Time Duration	Hours	Marks	Internal Assessment	Total Marks
	1	Paper I : Theory	–	3 Hrs	50	–	50
Semester–II	2	Paper II (Practical) : Basic Photography	1 Day	6 Hrs	40	10	50
						Total:	**100**

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SEMESTER–I

STILL PHOTOGRAPHY & AUDIO PRODUCTION

PAPER–I: THEORY

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Total no. of questions to be set: 20
2. Total no. of questions to be attempted: 12
3. Question paper is divided in two parts.
4. Section – A will consist of 15 questions. Student will attempt 10 questions. Each question will carry 3 (three) marks. (Total: 30 Marks)
5. Section – B will consist of 4 questions. Student will attempt 2 questions. Each question will carry 10 (ten) marks. (Total: 20 Marks)

Course Contents:

a) Concepts: Introduction to Communication: Concept, Process & Functions.
Intra–personal, Inter– personal, Group and Mass Communication.
Feedback evaluation of Communication Barriers of communication.

b) Verbal Communication: Concept and Practice, Language and Mass Communication, Language uses in different mass media, Language and Society.

c) Non–Verbal Communication, Para Language, Dress And Body Language
Non–Verbal Communication and Mass Communication.

d) Properties of light, electromagnetic spectrum, theories of light transmission, spectrum, dispersion, reflection, transmission, refraction, polarization, Controlling light pin–hole camera, simple concave convex, mirror lenses.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Hand Book of Journalism & Mass Communication	Mr. Vir Bala Aggarwal
2.	Basic Photography	John Hedgecoe
3.	35 mm Photography	Bavister

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SEMESTER–I

STILL PHOTOGRAPHY & AUDIO PRODUCTION

PAPER–II: BASIC PHOTOGRAPHY (PRACTICAL)

Time: 6 Hours **Total Marks: 50**
Practical Marks: 40
Internal Assessment: 10

Instructions for the Paper Setters:

1. The paper will be set by the Examiner on the spot considering the syllabus.
2. Creative work on the part of the students is to be emphasized.
   Technical competence is expected. The students should also use updated and latest techniques in his/her work.
3. Students will have to complete three Projects for Internal Assessment.
4. Internal examiner will evaluate the sessional work.
5. Photographs clicked during examination are supposed to be submitted by the student in the form of C.D. or D.V.D. as desired by the examiner.

Instructions for Students:

1. Project submitted by the student is to be duly signed & certified by the class teacher that the project has been solely made by the student under the guidance of the class teacher in accordance with the Head of Dept.
2. Attendance in departmental seminars and extension lectures and college tours shall be obligatory for all students.
3. Students are not allowed to use previous clicked Photographs.
4. Students should submit three projects. Each project will consist of 10 printed photographs. Student should submit D.V.D. of all Clicked Photographs during semester and a separate D.V.D of selected photographs of which the print have been submitted.
5. Sizes of photographs will be given by Class– Teacher as per requirement.

Course Contents:

1. Mechanism Shutter, aperture, focus, camera body, film transport, view finder.
2. Comparison/ classification of camera their focusing mechanism, view finder, range finder T.C.R.S.C.R. films format: large, medium miniature disc etc.
3. Handling of camera.
4. Loading and shooting B/W films.
5. Effects of aperture.
6. Effects of shutter speed.
7. Making of grey scale.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Hand Book of Journalism & Mass Communication	Mr. Vir Bala Aggarwal
2.	Basic Photography	John Hedgecoe
3.	35 mm Photography	Bavister

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SEMESTER–II

STILL PHOTOGRAPHY & AUDIO PRODUCTION
PAPER–I: THEORY

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Total No. of questions to be set: 20
2. Total No. of questions to be attempted: 12
3. Question paper is divided in two parts.
4. Section – A will consist of 15 questions. Student will attempt 10 questions. Each question will carry three marks. (Total: 30 Marks)
5. Section – B will consist of 4 questions. Student will attempt 2 questions. Each question will carry ten marks. (Total: 20 Marks)

Course Contents:

a) Traditional forms of Communication.
Converting all the above areas in this paper.
News reporting and editing.
Newspaper Layout, News Analysis.
Desktop publishing techniques and word Processor .

b) Evaluation of Press and its role in different Socio–Economic and Political Systems.

c) Press Laws in India, Press Registration Act, Copyright and Defamation, Contempt of Court.

d) Introduction to Radio as a medium of Mass Communication and its Characteristics, Radio Development in India.

e) Introduction of T.V. as a medium of Mass Communication and its Characteristics, Development of T.V. in India.

f) Lens aberration, lens equation, correction of aberrations, ray diagram.
Comparison of human eye with the camera.
Processing of light sensitive chemical, latent image, development, fixing.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Hand Book of Journalism & Mass Communication	Mr. Vir Bala Aggarwal
2.	Dark Room Basics… And Beyond	Roger Hicks & Frances Schultz
3.	Basic Photography	John Hedgecoe

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SEMESTER–II
STILL PHOTOGRAPHY & AUDIO PRODUCTION

PAPER–II: BASIC PHOTOGRAPHY (PRACTICAL)

Time: 6 Hours **Total Marks: 50**

Practical Marks: 40

Internal Assessment: 10

Instructions for the Paper Setters:

1. The paper will be set by the Examiner on the spot considering the syllabus.
2. Creative work on the part of the students is to be emphasized.

   Technical competence is expected. The students should also use updated and latest techniques in his/her work.
3. Students will have to complete Three Projects for Internal Assessment.
4. Internal examiner will evaluate the sessional work.
5. Photographs clicked during examination are supposed to be submitted by the student in the form of C.D. or D.V.D. as desired by the examiner.

Instructions for the Students:

1. Project submitted by the student is to be duly signed & certified by the class teacher that the project has been solely made by the student under the guidance of the class teacher in accordance with the Head of Dept.
2. Attendance in departmental seminars and extension lectures and college tours shall be obligatory for all students.
3. Students are not allowed to use previous clicked Photographs.
4. Students should submit three projects. Each project will consist of 10 printed photographs. Student should submit D.V.D. of all Clicked Photographs during semester and a separate D.V.D of selected photographs of which the print have been submitted.
5. Sizes of photographs will be given by Class– Teacher as per requirement.

Course Contents:

1. Operations.
2. Exposure, tables of lighting, T.C.R.S.C.R. films format: large, medium miniature disc etc.
3. Photograph.
4. Processing B/W film.
5. Contact print.
6. Enlargements B/W.
7. Photo feature.
8. Maintenance of camera.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Hand Book of Journalism & Mass Communication	Mr. Vir Bala Aggarwal
2.	Dark Room Basics… And Beyond	Roger Hicks & Frances Schultz

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COMMERCIAL ART

EXAMINATION SCHEME

Total Papers Offered: Two
Total Practical Papers Offered: One
Total Theory Papers Offered: One
Extra weightage will be given for Creative and Professional Approach.
Internal Assessment in each subject will be given by the internal examiner / Class teacher.
Total Marks Offered: 100 (One Hundred)

	Sr.	Paper	Time Duration	Hours	Marks	Internal Assessment	Total Marks
	1.	Paper – I (Theory) Art Appreciation and Advertising	–	3 Hrs	50	–	50
Semester – I	2.	Paper – II (Practical) Greeting Cards and Logo **(Use of Photoshop is allowed)**	1 Day	6 Hrs	40	10	50
						Total:	**100**

	Sr.	Paper	Time Duration	Hours	Marks	Internal Assessment	Total Marks
	1.	Paper – I (Theory) Art Appreciation and Advertising	–	3 Hrs	50	–	50
Semester – II	2.	Paper – II (Practical) Illustration (Sketching)/ Fashion Figures	1 Day	6 Hrs	40	10	50
						Total:	**100**

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SEMESTER–I
COMMERCIAL ART

PAPER–I: ART APPRECIATION AND ADVERTISING (THEORY)

Time: 3 Hours **Marks: 50**

INSTRUCTIONS FOR THE PAPER SETTERS:

1. No. of questions to be set : 15
2. No. of questions to be attempted: 10
3. The questions are to be equitably distributed among all the topics of the Syllabus.
4. Each question will carry equal marks.

COURSE CONTENTS:

Definition of Color. Elements of colors: Primary Colors, Secondary Colors, Tertiary Color. Tones in Colors. Detailed Significance of each Color.
Importance of Color.
Logo and Monogram.
What is Commercial Art and use of Commercial Art.

Suggested Readings:

Sr. No.	Book Name	Author
1.	2000 Color Palette Swatches	Graham Davis
2.	Logo Cafe	Page 1 Publisher

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SEMESTER–I
COMMERCIAL ART

PAPER–II: GREETING CARDS AND LOGO (PRACTICAL)
(Use of Photoshop is allowed)

Time: 6 Hours **Total Marks: 50**
Size: ¼ imperial **Practical Marks: 40**
Medium: Poster Color/ Ink **Internal Assessment: 10**

Instructions for the Paper Setters:

1. The paper will be set by the Examiner on the spot considering the syllabus.
2. Imaginative and Creative work on the part of the students is to be emphasized. Imagination and Technical competence is expected. The students should also use updated and latest techniques in his/her work.
3. Students will have to complete five works for Internal Assessment.
4. Internal examiner will evaluate the sessional work.

Instructions for the Students:

1. Project submitted by the student is to be duly signed & certified by the class teacher that the project has been solely made by the student under the guidance of the class teacher in accordance with the Head of Dept.
2. Attendance in departmental seminars and extension lectures and college tours shall be obligatory for all students.
3. Students can use reference from magazines for their class works and projects with due permission of the Class Teacher and Head of Dept.
4. Minimum 2 works should be enhanced in Photoshop.
5. Size: As required.

Course Contents:

Greeting Cards: Greeting Cards, Greeting Card Envelopes, Gift Paper Designing, Gift Name Card Designing and Bookmark Designing.
Logo: Logos, Monograms, Visiting Cards, Letterheads and Envelopes.
(General Awareness of Photoshop: Scanning Manual Work, Enhancing and Retouching Manual Work.)

Suggested Readings:

Sr. No.	Book Name	Author
1.	Logo Café	Page 1 Publisher
2.	Logo Design	ED Julius, Viedemall Taschan Publisher
3.	Letter Head & Logo Design	Design Army, Rock Pot Publisher

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SEMESTER–II
COMMERCIAL ART

PAPER–I: ART APPRECIATION AND ADVERTISING (THEORY)

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. No. of questions to be set : 15
2. No. of questions to be attempted: 10
3. The questions are to be equitably distributed among all the topics of the Syllabus.
4. Each question will carry equal marks.

Course Contents:

Principal of Commercial Art.
Role of Commercial Art in Modern Society.
Poster and its qualities.
Layout and its Types.
Exhibition.

Suggested Readings:

Sr. No.	Book Name	Author
1.	How to be a Graphic Designer	Anna Labudovic & Nenadvulcusic Rockpot
2.	Advertising	James S. Norris
3.	Advertising Management	Manendra Mohan

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SEMESTER–II

COMMERCIAL ART
PAPER–II: ILLUSTRATION (SKETCHING) / FASHION FIGURES (PRACTICAL)

Time: 6 Hours **Total Marks: 50**
Practical Marks: 40
Internal Assessment: 10

Size: ¼ imperial
Medium: Pencil, Charcoal, Pen & Ink, Water Colors and Poster Colors

Instructions for the Paper Setters:

1. The paper will be set by the Examiner on the spot considering the syllabus.
2. Imaginative and Creative work on the part of the students is to be emphasized. Imagination and Technical competence is expected. The students should also use updated and latest techniques in his/her work.
3. Students will have to complete five works for Internal Assessment.
4. Internal examiner will evaluate the sessional work.

Instructions for the Students:

1. Project submitted by the student is to be duly signed & certified by the class teacher that the project has been solely made by the student under the guidance of the class teacher in accordance with the Head of Dept.
2. Attendance in departmental seminars and extension lectures and college tours shall be obligatory for all students.
3. Students can use reference from magazines for their class works and projects with due permission of the Class Teacher and Head of Dept.

Course Contents:
Object drawing, Nature Study, Birds and Animals, Story Based Illustrations, Portraits and Fashion Figures.

Suggested Readings:

Sr. No.	Book Name	Author
1.	Human Figures	Papin Press Publisher
2.	Illustration Now 3	ED Jullis Wiedeall

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–I

SCULPTURE

OUTLINES OF TEST

Total Marks: 100

Paper I: Theory	**Time: 2 Hours**	**Marks: 30**
Paper II: Practical	**Time: 6 Hours**	**Marks: 50**
		Internal Assessment: Marks: 20

PAPER–I (THEORY)

Time: 2 Hours **Marks: 30**

Note:

1. The question paper should cover the entire syllabus.
2. The paper setter should set 15 questions in all and students will have to attempt 10 questions in all.
3. The question can be repeated from the previous question paper.

What is Sculpture, Meaning of Relief and Round Sculpture, Quality and Preparation of Clay, Form and Shape, Clay Modeling and Carving, Process of Plaster mould and Casting, Composition, Texture, Contours, Uses of Material in Sculpture.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–I
SCULPTURE

PAPER–II (PRACTICAL)

Time: 6 Hours **Marks: 50**

1. Low Relief in Terracotta (Total No. 2) (Based on natural and geometrical form)
2. Mix Media (Total No. 2) (Paper Clay, Wire, M–Seal etc.)
3. Mask. (Total No. 2) (Paper, Plaster on Paper Mache)

Internal Assessment: Marks: 20

Note:

(a) Student will submit 6 works done in the class as a sessional work.

(b) Internal assessment will be assessed by the teacher concerned and will be submitted to the University through the Principal of the college.

(c) In case of private candidates there will be no internal assessment and the marks obtained in the practical examination shall be proportionately inversed.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–II
SCULPTURE

OUTLINES OF TEST

Total Marks: 100

Paper I: Theory	**Time: 2 Hours**	**Marks: 30**
Paper II: Practical	**Time: 6 Hours**	**Marks: 50**
		Internal Assessment: Marks: 20

PAPER–I (THEORY)

Time: 2 Hours **Marks: 30**

Note:

1. The question paper should cover the entire syllabus.
2. The paper setter should set 15 questions in all and students will have to attempt 10 questions in all.
3. The question can be repeated from the previous question paper.

Canons of Indian Art (Shadanga), Bhangas, Appreciation of some selected work of Artist (only with reference to one sculpture), The Triumph of Labour by D.P. Chaudhary, Santal Family by Ramkinker Baij, Skating the stag by Chintamani Kar, Volume in three masses by Prodosh Das Gupta, Standing Figure by Sankho Chaudhary, Flute Player by Dhanraj Bhagat, Sun 85 by Balbir Singh Katt.

SEMESTER–II
SCULPTURE

PAPER–II (PRACTICAL)

Time: 6 Hours **Marks: 50**

1. Relief in Plaster and Terracotta (Total Work: 2)
2. Head Study (Cast in Plaster, Total work 1)
3. Figure Composition in Paper Clay or M–Seal (Total work 2)

Internal Assessment: Marks: 20

Note:

(a) Student will submit 5 sculptures done in the class as a sessional work.

(b) Internal assessment will be assessed by the teacher concerned and will be submitted to the University through the Principal of the college.

(c) In case of private candidates there will be no internal assessment and the marks obtained in the practical examination shall be proportionately inversed.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–I
MUSIC (VOCAL)

Total Marks: 100

Theory: 3 Hours **Theory Marks: 50**
Practical: 20 Min. for each student **Practcal Marks: 50**

Teaching Work load:
Theory: 3 Periods per week **Practical: 9 Periods per week**

Note: There should not be more than ten students in one group of Practical class.

Instructions given to the examiners are as under:

1. There should not be more than ten students in a batch for practical examination.
2. Harmonium will be allowed as accompaniment in Vocal Music.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
4. The paper setter will set **Eight** questions in all. The candidate may be asked to attempt **Five** questions in all.
5. The Practical Paper will be of 50 Marks for Private and Regular candidates.
6. Candidate can take both subjects i.e. Vocal & Instrumental Music as elective subject.
7. Candidate can take Tabla subject along with Music Vocal or Music Inst.

SEMESTER–I
MUSIC (VOCAL)

THEORY

Time: 3 Hours **Marks: 50**

1. Historical Development of Indian Music in Vedic Period.
2. Definition and explanation of the following Musical Terms: Sangeet, Swar, Naad, Gram, That.
3. Method of tuning your instrument (Tanpura).
4. Contribution and Life Sketches of the following musicians: Tansen, Swami Hari Das, Abdul Karim Khan.
5. Description and notation of the following Ragas: Durga, Bhairav, Kalyan.
6. Description and notation of the following Taals: Teentaal, Dadra.
7. Elementary knowledge of Wedding Song of Punjabi culture with special reference to Ghorian.
8. Elementary Knowledge of the following non – detailed Ragas: Kalingra, Shudh Kalyan, Asa.
9. Contribution of Sri Guru Nanak Dev Ji towards Indian Music.
10. Definition and explanation of the following terms in the contexssst of Gurmat Sangeet: Raga, Mohalla, Rahao, Rababi.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–I
MUSIC (VOCAL)

PRACTICAL

Time: 20 Minutes **Marks: 50**

1. One Drut Khayal in each of the following Ragas with simple Alaps and Tanas: Durga, Bhairv, Kalyan.
2. One Vilambit Khayal in any of the Ragas prescribed in the course with simple Alaps and Tanas.
3. One Shabad from Ragas prescribed..
4. Ability to play five alankars on the Harmonium based on the Thatas of prescribed Ragas in the course.
5. Ability to recite Teental and Dadra showing Khali Tali with hand motion in Ekgun, Dhugan Layakaries.
6. Recitation of Ghorian.

Books Recommended:

1. Rag Parichya Part – I, II, and III by Shri Harish Chnder Srivastava.
2. Sangeet Shastra Darpan Part – II (Punjabi) published by Punjabi University, Patiala.
3. Sangeet Vishard Sangeet Karayalya, Hathras.
4. Sangeet Shastra Darpan Shanti Govardhan.
5. Hamare Sangeet Rattan Sangeet Karyalaya, Hathras.
6. Kramik Pustak Malika by Vishnu Narayan Bhathkhande.
7. Sangeet Nibandhavli, Dr. Gurnam Singh, published by Punjabi University, Patiala.
8. Sikh Dharam Ate Bhakti Sangeet, Dr. Jitender Kaur.
9. Gurmat Sangeet (Vishesh Ank) Amrit Kirtan Trust, 422, 15/A, Chandigarh.

SEMESTER–II
MUSIC (VOCAL)

Total Marks: 100

Theory: 3 Hours **Theory Marks: 50**

Practical: 20 Min. for each student **Practical Marks: 50**

Teaching Work load:

Theory: 3 Periods per week **Practical: 9 Periods per week**

Note: There should not be more than ten students in one group of Practical class.

Instructions given to the examiners are as under:

1. There should not be more than ten students in a batch for practical examination.
2. Harmonium will be allowed as accompaniment in Vocal Music.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
4. The paper setter will set **Eight** questions in all. The candidate may be asked to attempt **Five** questions in all.
5. The practical paper will be of 50 Marks for Private and Regular candidates.
6. Candidate can take both subjects i.e. Vocal & Instrumental Music as elective subject.
7. Candidate can take Tabla subject along with Music Vocal or Music Inst.

SEMESTER–II
MUSIC (VOCAL)

THEORY

Time: 3 Hours **Marks: 50**

1. Salient features of Time Theory in Indian Music.
2. Detailed knowledge of following forms of vocal music:
   Nibadh–Anibadh gan, Ragalap, Roopakalap and Alapti Gan.
3. Contribution and Life Sketches of the following musicians: Vishnu Narayan Bhathkhande, V.D. Puluskar, Onkar Nath Thakur
4. Description and notation of the following Ragas: Vrindavani Sarang, Asavari, Kafi.
5. Description and notation of the following Taals: Kehrva, Ektal
6. Elementary knowledge of Wedding Song of Punjabi culture with special reference to Suhag.
7. Elementary Knowledge of the following non–detailed Ragas: Jaunpuri, Bhimplasi, Madhmadh Sarang.
8. Definition and explanation of the following Musical Terms: Shruti, Murchana, Saptak, Raga.
9. Contribution of Bhai Mardana towards Music.
10. Definition and explanation of the following terms in the context of Gurmat Sangeet: Astpadi, Ank, Kirtaniya, Pada.

SEMESTER–II
MUSIC (VOCAL)

PRACTICAL

Time: 20 Minutes **Marks: 50**

1. One Drut Khayal in each of the following Ragas with simple Alaps and Tanas: Vrindavani Sarang, Asavari, Kafi.
2. One Vilambit Khayal in any of the Ragas prescribed in the course with simple Alaps and Tanas.
3. Elementary Knowledge of the following non–detailed Ragas: Jaunpuri, Bhimplasi, Tilang.
4. One Shabad from prescribed Ragas.
5. Ability to play five alankars on the Harmonium based on the Thatas of prescribed Ragas in the course.
6. Ability to recite Kehrva and Ektal showing Khali Tali with hand motion in Ekgun, Dhugan Layakaries.
7. Recitation of Suhag.
8. Ability to play Dadra on Tabla.

Books Recommended:

1. Rag Parichya Part – I, II, and III by Shri Harish Chnder Srivastava.
2. Sangeet Shastra Darpan Part – II (Punjabi) published by Punjabi University, Patiala.
3. Sangeet Vishard Sangeet Karayalya, Hathras.
4. Sangeet Shastra Darpan Shanti Govardhan.
5. Hamare Sangeet Rattan Sangeet Karyalaya, Hathras.
6. Kramik Pustak Malika by Vishnu Narayan Bhathkhande.
7. Sangeet Nibandhavli, Dr. Gurnam Singh, published by Punjabi University, Patiala.
8. Sikh Dharam Ate Bhakti Sangeet, Dr. Jitender Kaur.
9. Gurmat Sangeet (Vishesh Ank) Amrit Kirtan Trust, 422, 15/A, Chandigarh.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–I
MUSIC (INSTRUMENTAL)

Total Marks: 100
Theory: 3 Hrs. **Theory Marks: 50**
Practical: 20 Min. for each student **Practical Marks: 50**

Teaching work load:
Theory: 3 periods per week **Practical: 9 periods per week**

Note:–There should not be more than Ten Students in one group of practical class.

Instructions given to the examiners are as under:–

1. There should not be more than ten students in a batch for practical examination.
2. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
3. The paper setter will set eight questions in all. The candidate may be asked to attempt five questions in all.
4. The practical paper will be of 50 marks for private and regular candidates.
5. Candidate can take both subjects .i.e Instrumental music and Vocal music as elective subjects.
6. Candidate can take Tabla subject along with instrumental music or vocal music.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Visual Arts & Performing Arts)

SEMESTER–I
MUSIC (INSTRUMENTAL)

THEORY

Time: 3 Hours **Marks: 50**

1. Define Raag, Explain its Rules and Jatis.
2. History of your own instrument.
3. Definition and Explaination of the following musical terms:– Sangeet, Shruti, Swar, Saptak, Aaroh,Avroh,Pakad and Thata.
4. Define laya and taal, its types and features:– vibhag, matra, taali, khali, sam.
5. Life–Sketch and Contribution of the following musicians:– Allaudin khan, Pt.Ravi Shankar & Prof. Tara Singh.
6. Description and Notation of the following ragas:– Kalyan, Bilawal, Vrindavani Sarang.
7. Brief knowledge of the following ragas:– Shudh Kalyan, Alhaiya Bilawal & Madhmadh Sarang (aaroh,avroh and pakad).
8. Brief knowledge of the following Talas:– Teen taal and Dadra taal.
9. Contribution of Guru Arjun Dev ji towards Indian music.
10. Definition and explanation of the following terms in the context of Gurmat Sangeet: Raga, Mohalla, Rahao, Rababi.

Books Recommended:

1. Raag Parichey (Part 1,2) by H.C.Shrivastava.
2. Sangeet Shaster Darpan (Part–1,2) by Shanti Gowardhan.
3. Sangeet Visharad, Sangeet Karyalaya Hathras.
4. Hamare Sangeet Ratan.
5. Punjab Ki Sangeet Prampara by Geeta Paintal.
6. Sangeet Subodh by Dr.Davinder Kaur
7. Gurmat Sangeet (Vishesh Ank) Amrit kirtan Trust, Chandigarh.

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(Faculty of Visual Arts & Performing Arts)

SEMESTER–I
MUSIC (INSTRUMENTAL)

PRACTICAL

Time: 20 Minutes **Marks: 50**

1. Ability to play Ten Alankars on your Instrument.
2. One Razakhani Gat in each of the following ragas with toras and jhalla:– Raag Kalyan, Bilawal & Vrindavani Sarang.
3. One Maseetkhani Gat in any ragas prescribed in the course.
4. Brief knowledge of following non detailed Ragas Shudh Kalyan, Alhaiya Bilawal & Madhmadh Sarang.
5. Ability to recite Teen taal and Dadra taal by hand in ekgun and dugun layakaries.
6. Ability to play five alankars on harmonium.

SEMESTER–II
MUSIC (INSTRUMENTAL)

Total Marks: 100
Theory: 3 Hrs. **Theory Marks: 50**
Practical: 20 Min. for each student **Practical Marks: 50**

Teaching work load:
Theory: 3 periods per week **Practical: 9 periods per week**

Note:–There should not be more than Ten students in one group of practical class.

Instructions given to the examiners are as under:–

1. There should not be more than ten students in a batch for practical examination.
2. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.
3. The paper setter will set eight questions in all. The candidate may be asked to attempt five questions in all.
4. The practical paper will be of 50 marks for private and regular candidates.
5. Candidate can take both subjects i.e. Instrumental Music and Vocal Music as elective subjects.
6. Candidate can take Tabla subject along with Instrumental Music or Vocal Music.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–II
MUSIC (INSTRUMENTAL)

THEORY

Time: 3 Hours **Marks: 50**

1. Classification of Indian Musical Instruments.
2. History of Indian music during Vedic Period.
3. Definition and explaination of the following musical terms:–Bols of mizraab, Maseetkhani Gat, Razakhani Gat, Vadi, Samvadi, Purvang and Uttrang.
4. Life–sketch and contribution of the following musicians:– Annapurna, Vilayat Khan & Nikhil Banerjee.
5. Explain Alap, Jod and Jhalla.
6. Description and notation of following ragas:– Bhairav, Bhupali & Kafi.
7. Brief knowledge of the following ragas:– Kalingra, Deshkar & Bhimplasi.
8. Brief knowledge of the following Talas:– Kehrva and Rupak Kehrva.
9. Contribution of Bhai Mardana towards music.
10. Detailed knowledge of the following instruments used in Gurmat Sangeet:– Rabab,Dilruba and Saranda.

Books Recommended:

1. Raag Parichey (Part 1,2) by H.C.Shrivastava.
2. Sangeet Shaster Darpan (Part–1,2) by Shanti Gowardhan.
3. Sangeet Visharad, Sangeet Karyalaya Hathras.
4. Hamare Sangeet Ratan.
5. Punjab Ki Sangeet Prampara by Geeta Paintal.
6. Sangeet Subodh by Dr. Davinder Kaur
7. Gurmat Sangeet (Vishesh Ank) Amrit kirtan Trust, Chandigarh.

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SEMESTER–II
MUSIC (INSTRUMENTAL)

PRACTICAL

Time: 20 Min. **Marks: 50**

1. Ability to play Ten Alankars on your Instrument.
2. One Razakhani Gat in each of the following of the Ragas with Toras and Jhalla. (Bhairav, Bhupali & Kafi).
3. One Maseetkhani Gat in any of Ragas prescribed in the course.
4. Ability to recite Kehrva and Rupak Taal by hand in Ekgun and Dugun Layakaries.
5. Ability to play Teen Taal on Tabla.
6. One Dhun based on Folk music of Punjab.

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SEMESTER–I
INDIAN CLASSICAL DANCE

Total Marks: 100

Theory: 3 Hours Duration **Theory Marks: 50**
Practical: 20 minutes **Practical Marks: 50**

Teaching work load:
Theory 3 periods per week. **Practical – 9 periods per week.**

Note: There should not be more than ten students in a group of practical class.

Instructions given to the examiners are as under:–

1. There should not be more than ten students in one batch for practical examinations.

2. Harmonium will be allowed as accompaniment to perform Nagma.

3. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.

4. The practical paper will be of the 50 marks for the private & regular candidates.
5. The paper setter will set **Eight** questions in all. The candidate may be asked to attempt **Five** questions in all.
6. Candidates can take Dance as elective subject along with music vocal or music Inst. **Or** Tabla.

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SEMESTER–I
INDIAN CLASSICAL DANCE

THEORY

Time: 3 Hours **Marks: 50**

1. Definition of the following:–Theka, Tatkar, Thaat, Amad, Salami, Tora, Paran, Tehai.

2. Knowledge of: Ang, Pratyang, Upang

3. Study of Rasa and their importance in Kathak Dance.

4. Origin and development of Kathak Dance from Ancient to Mughal period.

5. Knowledge of the Folk Dances of Punjab with their style, costume and music.

6. Role of Dance in Society.

7. Notation of Teen Taal with its:
   (a) Tatkar in Thaah, Dugun and Chaugun Layakaries.
   (b) Thaat – 2
   (c) Tehai – 1
   (d) Amad – 1
   (e) Salami – 1
   (f) Tora – 2
   (g) Paran – 1
   (h) Chakardar Paran – 1
   (i) Kavit – 1

8. Description of following talas with their Thaah, Dugun, Tigun and Chaugun Layakaries of Thekas.
   (i) Teentaal (ii) Tilwara (iii) Kehrva

9. Recognition of the following taals through some bols given by the examiner:
   (a) Teentaal (b) Tilwara (c) Kehrva

10. Notation of Nagma in Teen Taal.

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SEMESTER–I
INDIAN CLASSICAL DANCE

PRACTICAL

Time: 20 Minutes **Marks: 50**

Practical demonstration of the following:

1. **Teen Taal its:**
   - (a) Tatkar in Thaah, Dugun, Tigun and Chaugun Layakaries.
   - (b) Thaat – 2
   - (c) Tehai – 1
   - (d) Amad – 1
   - (e) Salami – 1
   - (f) Tora – 2
   - (g) Paran – 1
   - (h) Chakardar Paran – 1
   - (i) Kavit – 1

2. Padhant of whole material by hand in all Taal mentioned above.
3. Recognition of the compositions such as Tehai, Layakaries etc. composed by the Examiner.
4. Practice of Hand movements with Tal.
5. Ability to demonstrate Punjabi Folk Dance.
6. Ability to play Nagma on Harmonium in Teen Taal.

Books Recommended:

1. Kathak Nritya Ka Prichey — Subhashni Kapoor, Radha Publications, New Delhi, 1997.
2. Kathak Sundaryatmak Shashtriya Nritya — Shikha Kharey, Knishka Publishers, New Delhi, 2005.
3. Atihasik Pripeksh Mein Kathak Naritya — Maya Tak, Knishka Publishers, New Delhi, 2006.
4. Nibandh Sangeeet — Laxmi Naryan Garg, Sangeet Karyalya, Hathras, 2004.
5. Kathak Naritya Shiksha — Dr. Puru Dadhich, Bindu Parkashan, Ujjain (MP.)

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(Faculty of Visual Arts & Performing Arts)

SEMESTER–II
INDIAN CLASSICAL DANCE

Total Marks: 100

Theory: 3 Hours Duration **Theory Marks: 50**
Practical: 20 minutes **Practical Marks: 50**

Teaching work load:
Theory 3 periods per week. **Practical – 9 periods per week.**

Note: There should not be more than ten students in a group of practical class.

Instructions given to the examiners are as under:–

1. There should not be more than ten students in one batch for practical examinations.

2. Harmonium will be allowed as accompaniment to perform Nagma.

3. While sending the syllabus to paper setter in theory the syllabus prescribed for the practical paper should also be sent.

4. The paper setter will set **Eight** questions in all. The candidate may be asked to attempt **Five** questions in all.

5. The Practical Paper will be of the 50 marks for the private & regular candidates.

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SEMESTER–II
INDIAN CLASSICAL DANCE

THEORY

Time: 3 Hours **Marks: 50**

1. Definition of the following:– Kavit, Chakardar Paran, Bhaav, Kasak, Masak, Vandana, Gat, Laya.

2. Knowledge of:
   (i) Four neck movements
   (ii) Eight eye glances.
   (iii) Seven eye–brow movements.
   (iv) Nine head movements.

3. Study of Asmyukta Mudras based on Abhinaya Darpan.

4. Essential characteristics of Manipuri Dance.

5. Origin & Development of Bharat–Natyam

6. Historical background of the Folk Dances of Rajasthan.

7. Importance of Vocal & Instrumental Music with Dance

8. Essay on :
   (i) Importance of Tal and Lehra in Kathak Dance.
   (ii) Advantages of Dance.

9. Writing notation of Jhaptal with its:
   (a)Tatkar with its Thaah, Dugan, Tigun and Chaugun Layakaries
   (b) Thaat – 1
   (c) Tehai – 1
   (d) Amad – 1
   (e) Tora – 1
   (f) Paran – 1
   (g) Chakardar Paran – 1

10. Description of following talas with their Thaah, Dugun, Tigunand Chaugun Layakaries of Thekas.
    (i) Jhaptal
    (ii) Ektal
    (iii)Dadra

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INDIAN CLASSICAL DANCE

PRACTICAL

Time: 20 Minutes **Marks: 50**

Practical Demonstration of the following:

1. Teen Taal its:

(a) Tatkar in Thaah, Dugun, Tigun and Chaugun Layakaries.

(b) Thaat	–	2
(c) Tehai	–	1
(d) Amad	–	1
(e) Salami	–	1
(f) Tora	–	2
(g) Paran	–	1
(h) Chakardar Paran	–	1
(i) Kavit	–	1

2. Jhaptal :

(a) Tathar with its Thaah, Dugun, Tigun and Chaugun Layakaries.

(b) Thaat	–	1
(c) Tehai	–	1
(d) Amad	–	1
(e) Tora	–	1
(f) Paran	–	1
(g) Chakardar Paran	–	1

3. Padhant of whole material by hand in all taals mentioned above.
4. Recognition of the compositions such as Tehai, Layakaries etc. composed by the Examiner.
5. Practice of (Hand movements with Tal).
6. (i) Two Gat Nikas in Taal.
   (ii) One Bhajan
7. Ability to demonstrate Panjabi or Rajasthani Folk Dance
8. Ability to play Nagma on Harmonium in Teentaal &Jhaptaal.

Books Recommended:

1. Kathak Nritya Ka Prichey Subhashni Kapoor Radha Publications, New Delhi, 1997.

2. Kathak Sundaryatmak Shikhakharey Shashtriya Nritya Krishka Publishers, New Delhi, 2005.

3. Atihasik Pripeksh Mein Maya Tak Kathak Naritya Knishka Publishers, New Delhi, 2006.

4. Nibandh Sangeeet Laxmi Naryan Garg Sangeet Karyalya, Hathras, 2004.

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(Faculty of Visual Arts & Performing Arts)

SEMESTER–I

TABLA

Total Marks: 100

Theory: 3 Hours **Theory Marks: 50**
Practical: 20 Minutes for each student **Practical Marks: 50**

Teaching work load:
Theory 3 periods per week. **Practical – 9 periods per week.**

Note: There should not be more than ten students in one group of practical class.

Instructions given to the examiners are as under:

1. There should not be more than ten students in a batch for practical examinations.
2. Harmonium will be allowed as accompaniment to perform the Nagma.
3. While sending the syllabus to paper setter in theory the syllabus prescribed for practical paper should also be sent.
4. The paper–setter will set eight questions. The candidate will be asked to attempt five questions.
5. The practical paper will be of the 50 marks for the private & regular candidates
7. Candidate can take Tabla subject with Vocal or Instrumental Music (Sitar, Sarangi, Veena, Sarod, Dilruba, Violin, Guitar, Bansuri, Shehnai, Rabab, Saranda, Taus, Santoor and any other Swar Vadhya to the played on the basis of Indian Classical Music).

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(Faculty of Visual Arts & Performing Arts)

SEMESTER–I
TABLA

THEORY

Time: 3 Hours **Marks: 50**

1. Definitions with full explanations of the following: Dayan, Bayan, Laya, Avartan, Tala, Qayada, Tihai, Laggi.
2. Ten Paraans of Tala.
3. Importance of tala in Music and Dance.
4. Life & Contribution of the following Musicians in the field of Tabla Vadan:–

   Zakir Husain Khan, Anindo Chatterjee, Pt Kishan Maharaj.
5. Origin & Development of Tabla and its present form.
6. Notation and Comparative study of the following Taals:–

   Teentaal – Tilwara, Ektaal – Chautal.
7. Notation and description of the following :–
   i. Teental (Peshkara, Two Qaidas with Four Paltas, Two mukhras, Two Tihaais, Two Parans, Two Tukdas.)
   ii. Rupak– (Peshkar, Quadas, Tukra, Laggi, Tihai)
8. Job Avenues and Scope of Tabla learning in th field of Music.
9. Detailed Study of Gharanas in tabla vaadan.
10. Role of Tabla in Gurmat Sangeet.

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SEMESTER–II

PRACTICAL

Time: 20 Minutes **Marks: 50**

1. Talas Prescribed: Dadra, Kehrva, Teental, Ektal.

2. Laggis in Dadra and Kaharva.

3. Teental Peshkara–Two Qaidas with Four Paltas each, Two Mukhras, Two Tukra, Two Tihais.

4. Ektal–One quada, Two Tukra, Two tehai.

5. Practice of playing the above taals with Vocal and Instrumental performance.

6. Practice of Dholak playing in Kehrva Tal.

7. Ability to play Nagma on harmonium in Teental.

8. Tuning of Tabla.

Books Recommended:

1. Sangeet Visharad : Basant, Sangeet Karyalaya Hathras, 2004.

2. Tal Prabandh : Pt. Chhote Lal Misher Knishka Publisher, New Delhi, 2006.

3. Bharti Sangeet Vadhya : Lal Muni Misher, Bhartiya Gayan Peeth Parkashan, 1973.

4. Hamare Sangeet Rattan : Sangeet Karyalaya Hathras, 1978.

5. Tal Martand : Sataya Narayan Vishesht Sangeet Karyalaya Hathras, 1994.

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SEMESTER–II
TABLA

THEORY

Time: 3 Hours **Marks: 50**

1. Definitions with full explanations of the following:
   Tukda, Avartan, Vibhag, Mukhra, Mohra, Tipalli, Gat, Paran, Rela.
2. Role of Young Artists in Promoting & popularizing Tabla.
3. The Place of Tabla in Light Music.
4. Comparative study of the following Taals :–
   Tivra– Rupak, Jhaptala– Sool Tala.
5. Life & Contribution of the following Musicians in the field of Tabla vadan:–
   Pt. Samta Prasad, Ustad Alla Rakha Khan, Pt. Lakshman Singh Sen.
6. Notation and description of the following :–
   a. Ektal– (Peshkara, two quadas with Four Paltas, Two mukhras, Two Parans, Two Tukdas.)
   b. Jhaptal– (Peshkar, Quadas, Tukra, Laggi, Tihai, Paran)
7. Notations of the following talas in Dugun, Tigun & Chaugun laykaries:–
   Teentaal, Tilwara, Ektaal, Chautal, Rupak, Jhaptal.
8. Comparative Study of Delhi & Ajrada Gharanas of Tabla.
9. Role of following Instruments in Rhythm:–
   Dholak, Pakhawaj, Mridang, Khol.
10. Detailed Knowledge of Folk Instruments (Percussion) of Punjab.

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SMESTER – II
TABLA

PRACTICAL

Time: 20 Minutes **Marks: 50**

1. Tals Prescribed: Teental, Chautal, Rupak, Jhaptal.

2. Laggis in Rupak & Teental.

3. Teental Peshkara – Two Qaidas with Four Paltas each, Two Tukra, Two Tihais, One Paran.

4. Jhaptal – Two Qaidas with Four Paltas each, Two Tukra, Two Tihais.

5. Rupak – Two Qaidas with four Paltas each, Two Tukras & One Tihai.

6. Chautal theka in Ekgun, Digun and Chugan Layakaries.

7. Practice of playing the above Taals with Vocal and Instrumental performance.

8. Ability to play Nagma on Harmonium in Jhaptal & Rupak.

9. Tuning of Tabla.

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SEMESTER – I
DRAMATIC ART

THEATRE ART

Time: 3 Hours **Total Marks: 100**
Theory Marks: 50
Practical Marks: 50

Teaching load work:
Theory: 3 Periods per week **Practical: 9 Periods per week**

Instructions given to the examiners are as under:

1. The paper setter will set eight questions. The students will be required to attempt five questions.
2. All questions carry equal marks.
3. While setting Question Paper, the syllabus for the practical paper will also be sent.

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SEMESTER – I
DRAMATIC ART

THEORY

Time: 3 Hours **Marks: 50**

1. Detailed knowledge of Indian Theatre.
2. Theory of Natya in Bharata's Natyashastra
3. Relation between Theatre & Music.
4. Basic fundamentals of stage performance.
5. Biographical study of following theatre Artists / Directors:– Nassirudin Shah & Girish Karnad & Balwant Gargi.
6. Brief note on the following technical terms:– Tormentor, Cyclorama, Pivot point, Flies, Proscenium.
7. Contribution of the following institutes in promoting Drama & theatre:– Lalit Kala Academy (New Delhi), Sangeet Natak Academy (New Delhi), National School of Drama (New Delhi).
8. Introduction to folk theatre forms of India:– Tamasha, Nautanki, Ramleela

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SEMESTER – I
DRAMATIC ART

PRACTICAL

Time: 3 Hours **Marks: 50**

1. Different Dancing movements related to theatre.
2. Different rhythmic movements and improvisation.
3. Enactment of simple roles.
4. Different exercises for Mime.
5. Production of Small Skits
6. Performing on the theme given by the examiner on the spot.
7. Different tongue twisting exercises

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER – II
DRAMATIC ART

THEORY

Time: 3 Hours **Marks: 50**

1. Principles of play productions.
2. Relation of Drama & Dance.
3. Biographical study of following theatre Artists / Directors:– Prithvi raj Kapoor,, Rani Balbior Kaur, Neelam Man Singh.
4. Introduction of Greek and Elizabethan Theatre
5. Short note on the following:– Mime & Improvisation, Types of postures, Pitch & Volume, Rhythmic Movements.
6. Principles of Colour Design, Colour symbolism.
7. Principles of Voice Modulation.
8. Importance of Stage Lightening, Stage Setting & Sound Arrangement

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Visual Arts & Performing Arts)

SEMESTER – II
DRAMATIC ART

PRACTICAL

Time: 3 Hours **Marks: 50**

1. Knowledge of Yogic exercises (Ten Postures) related to Acting.
2. Ability to demonstrate the art of Make–up in different situations.
3. Performing on the theme given by the examiner on the spot.
4. Introduction to Stage lightening.
5. Speech Skills – Addressing audience, storytelling, poetry recitation.
6. Different exercises pertaining to Eye Abhinaya.
7. Introduction to Set Design – Simple sketches.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER – I

RUSSIAN (WRITTEN)

Time: 3 Hrs **Total Marks: 100**

1. Translation from English into Russian **Marks: 25**
2. Translation from Russian into English **Marks: 25**
3. Grammar **Marks: 50**

Course of Reading & Prescribed Text–Book:

"RUSSIAN" – by Wagner V.N. & Ovsienko Y.G. (Lessons 1 to 12)

Note: Exercises in the text–book not related with the prescribed Grammar be excluded while paper setting.

Note: Dictionaries are allowed.

SEMESTER – II
RUSSIAN (WRITTEN)

PART–A

Total Marks: 100

Written Marks: 70

1. Translation from English into Russian	**Marks: 10**
2. Translation from Russian into English	**Marks: 10**
3. Write a small paragraph (one out of three topics)	**Marks: 10**
4. Grammar	**Marks: 40**

Topics: My friend; About myself; My family; My classroom; My teacher

Course of Reading & Prescribed Text–Book:

"RUSSIAN" – by Wagner V.N. & Ovsienko Y.G. (Lessons 1to 25)

–All the cases in singular form (Nouns only).

–Verbs of motion without prefixes: идти–ходить, ехать–ездить

–"который" in simple form

"RUSSIAN" – by Ovsienko Y.G. & Skopina (Part–I)

Note:– Exercises in the text–book not related with the prescribed Grammar be excluded while paper setting.

– **Dictionaries are allowed.**

PAPER–B

ORAL / PRACTICAL

Practical Marks: 30

– Reading of a text	**Marks: 10**
– Dictation	**Marks: 10**
– Simple conversation	**Marks: 10**

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SEMESTER – I

FRENCH **(WRITTEN)**

COMPREHENSION, COMPOSITION & CIVILIZATION

Time: 3 Hrs **Total Marks: 100**

1. Questions of general comprehension related to the text.
   e.g. :– Qu'est ce que vous faites le dimanche ou
   Apprenez – vous le francais? Marks: 20
2. comprehension of an unseen passage of about 200 words. Marks: 20
3. Composition of dialogue of one of three topics covered in the text book. Marks: 20
4. Simple questions of general interest on French Marks: 20
   pertaining to the text. (Questions on important cities, regions, mountains,
   Monuments, rivers, national day, National Flag, National song, Cusine.
   Ten questions to be attempted out of 15). These questions are to be asked in the
   form of fill in the blanks or multiple choice questions.
5. Grammar Marks: 20

Course of Reading & Prescribed Text–Book:

"CONNEXIONS–1" by Regine Merieux & Yves Loiseau Published by Didier. **(Lessons 1 to 6)**

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SEMESTER – II

FRENCH (WRITTEN)

COMPREHENSION, COMPOSITION & CIVILIZATION

PART–A

Time: 3 Hrs **Total Marks: 100**
Written Marks: 70

1. Composition of a small paragraph on general topics pertaining to the text. E.g.: Ma maison, Mon professeur, Ma famille, Une ville tourstique, Un pique–nique. (One out of two topics) Marks: 10
2. Simple questions of general interest on French pertaining to the text. (Questions on important cities, regions, mountains, Monuments, rivers, national day, National Flag, National song, Cusine. Ten questions to be attempted out of 15). These questions are to be asked in the form of fill in the blanks or multiple choice questions. Marks: 10
3. Translation of a simple unseen passage or short sentences from English into French Marks: 10
4. Translation of a simple unseen passage or short sentences from French into English Marks: 10
5. Questions on applied grammar pertaining to the text–book. Marks: 30

Course of Reading & Prescribed Text–Book:

"CONNEXIONS–1" by Regine Merieux & Yves Loiseau, Published by Didier. **(Lessons 1–12)**

PART–B
(ORAL) / VIVA

Practical Marks: 30

– Reading of a text Marks: 10
– Dictation Marks: 10
– Simple conversation Marks: 10

Course of Reading & Prescribed Text–Book:

"CONNEXIONS–1" by Regine Merieux & Yves Loiseau, Published by Didier. **(Lessons 1–12)**

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SEMESTER–I
URDU
URL– 101: (PROSE AND POETRY)

Time: 3 Hours **Max. Marks: 100**

Book Prescribed:

Urdu Nisab, Part–II (Prose–Part), Published by M/S Educational Book House A.M.U. Market, Aligarh

Prose & Poetry:

Explanation of Prose passages

Explanation of verses

Summary of a poem or a lesson

Book Prescribed:

Urdu Nisab Part–II, Published by M/S Educational Book House A.M.U. Market, Aligarh

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SEMESTER–II
URDU

URL–102

Time: 3 Hours **Max. Marks: 100**

a) **Essay and Composition**:

Essay

Letter / Application

Opposite words, Numbers, Genders and Idioms

b) Media and Information:

News Paper, Journals, Radio and TV: Introduction and Importance

Books Recommended:

1. Guldasta–e–Mazamin–o–Insha Pardazi, Part–II by Dr. Aarif Mohammad Khan,

   Published by M/s Educational Book House, A.M.U. Market, Aligarh.

2. Akhbar Ki Kahani by Ghulam Haider, Taraqqi Urdu Board, New Delhi.

3. Rehbar–e–Akhbar Navisi by Syed Iqbal Qadri, Taraqqi Urdu Board, New Delhi.

4. Urdu Sahafat Ki Tarikh by Nadir Ali Khan, National Council for Promotion of Urdu, R.K.Puram, New Delhi.

5. Television Ki Sahafat by Shakil Hasan Shamsi, Educational Book House, AMU Market, Aligarh.

6. Television Nashariyat by Anjum Usmani, Educational Book House, AMU Market, Aligarh.

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SEMESTER–I
PERSIAN

PRL–101: PROSE AND POETRY

Time: 3 Hours **Max. Marks: 100**

Prose and Poetry:

Translation of prose passages

Explanation of verses

Bibliographical questions on the poets and writers studied.

Books Prescribed:

Farsi–O–Dastur Part – II by Dr. Zehra Khanlari,

Published by Idara Adabiayat, 5803– Sadar Bazaar, Delhi–6.

Following lessons are included in syllabus:

1,2,11,20,26.27,29,30,32,33,38,39,47,49 and 50.

Books Recommended:

1. Sher–ul–Ajam, Part–I, Pages–30–36 and 144–152.), Anjuman Tarriqi, Urdu Hindi, Delhi.
2. Sher–ul–Ajam, Part–II,(Pages–212–298.), Anjuman Tarraqi Urdu, Jama Masjid, Delhi–6.
3. Tarikh–e–Adabiyat–e–Iran by Raza Zada Shafaq, Tr.By Mubariz–ud–din Rif'at, Edara Musannifin, hydeabad. 1998, age–87–95 and 150–157).
4. Tarikh–e–Islam by Akbar Shah khan Najibabadi, Part–II, (Pages–362–380) Edara Musannifin, Azamgarh.
5. Subak Shinasi Part–II, by Malik–ush–Sho'ara Bahar (pages–124–126).
6. Gulistan–e–Sa'di. Anjuman Tarraqi Urdu, Jama Masjid, Delhi, 110006.
7. Qabus Nameh. Anjuman Tarraqi Urdu, Jama Masjid, Delhi– 06.
8. Marzban Nameh. Anjuman Tarraqi Urdu, Jama Masjid, Delhi, 110006.
9. A Literary History of Persia, Vol. I, By E. G. Brown – (Pages–275–289 & Vol. II, (Page–489).

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SEMESTER–II
PERSIAN

PRL–102: COMPOSITION AND GRAMMAR

Time: 3 Hours **Max. Marks: 100**

a) Composition:

1. Short Essay (at least ten sentences in Persian on any one of the following):
   Rafique Man, Darsgah–e–Man, Watan–e–Azizam, Sha'ir–e–Maroof, Kitabi ke Man Pasandam, Fasalha –e– Hind, Amozgaram, Mashaghil, Khuda–e–bartar & Ahmiyat–o–Favaid–e–Riyazat–e–Badani.
2. Translation of unseen passage or sentences in Urdu/English/Hindi/Punjabi.
3. Translation of simple sentences into Persian.

b) Grammar: Definitions and Kinds:

Nihad–o–Guzare, Fail –o– Zamane Fail (Mazi, Haal, Mustaqbal & Muzare) Shakhs (Avval, Dom & Som), Shakhs (Mufarrad and Jama), Fa'il, Ism, its kinds & Numbers and Zamir.

c) Media and Information:

News paper, Journals, Radio and T V: Introduction and Importance.

Books Prescribed:

1. Farsi–o–Dastur, Zohra Khanlari, Edara Adabyat, Sadar Bazaar Delhi,110006,
   (Pages: 18, 32, 33, 43, 44, 52, 54, 63, 64, 75, 76, 91, 92, 101,102, 111,112,120 &121.)
2. Farsi–o–Dastur Tarjuma, Part–II, by Dr. Nargis Jahan, published by Idara Adabiyat, Sadar Bazaar, Delhi.

Books Recommended:

1. Akhbar Ki Kahani by Ghulam Haider, Taraqqi Urdu Board, New Delhi.
2. Rehbar–e–Akhbar Navisi by Syed Iqbal Qadri, Taraqqi Urdu Board, New Delhi.
3. Urdu Sahafat Ki Tarikh by Nadir Ali Khan, Urdu Academy, Delhi.
4. Television Ki Sahafat by Shakeel Hasan Shamsi, 37– Johri Mohalla, Lucknow.
5. Television Nashariyat by Anjum Usmani, Maktaba Jamia Ltd., Jamianagar, Delhi–25.

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SEMESTER – I

हिन्दी

आधुनिक कविता, व्याकरण तथा अनुवाद

समय : 3 घण्टे **कुल अंकः 100**

नोटः यह प्रश्न-पत्र तीन भागों में विभक्त होगा ।

खण्ड-एक

इस भाग में से 10 प्रश्न पूछे जाएंगे। इस का पांच पंक्तियों में उत्तर देना होगा। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न दो अंकों का है। कुल अंक 20 हैं।

खण्ड-दो

इस भाग में 12 प्रश्न पूछे जाएंगे जिन में से 8 प्रश्नों का उत्तर देना अनिवार्य होगा। प्रत्येक प्रश्न का उत्तर दो पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के छः अंक हैं। कुल अंक 48 है।

खण्ड-तीन

इस भाग में 4 प्रश्न पूछे जाएंगे जिन में से दो प्रश्नों का उत्तर देना अनिवार्य है। प्रत्येक प्रश्न का उत्तर पांच पृष्ठों का होगा। प्रत्येक प्रश्न सोलह अंकों का होगा। कुल अंक 32 हैं।

निर्धारित पाठ्यक्रम

पाठ्य पुस्तकें :

1. **काव्य पथ : संपादक – डॉ.सुधा जितेन्द्र, प्रकाशक गुरु नानक देव यूनिवर्सिटी, अमृतसर केवल पहले 12 कवि रखे गए हैं।**
2. **आदर्श हिंदी व्याकरण तथा सैद्धांतिकी : डॉ एच.एम.एल. सूद, वागीश प्रकाशन, जालंधर।**
   (क) संज्ञा, सर्वनाम, विशेषण, क्रिया, उपसर्ग, प्रत्यय।
   (ख) विपरीतार्थक तथा समानार्थक, अनेक शब्दों के लिए एक शब्द।
3. **अनुवादः अर्थ और उपयोगिता**

विषयानुकूल अंक विभाजन :

1. प्रथम खण्ड में व्याकरण, तथा पाठ्य पुस्तक में निर्धारित कवियों तथा उनकी कविताओं में से प्रश्न समान अनुपात से पूछे जायेंगे।
2. दूसरे खण्ड में चार सप्रसंग व्याख्याएं होंगी जिनमें से दो करनी होंगी। चार प्रश्न कवि परिचय एवं कविताओं के होंगे, उनमें से दो प्रश्न करने अनिवार्य होंगे। दो प्रश्न व्याकरण के तथा दो प्रश्न अनुवाद के होंगे। जिनमें से एक एक करना अनिवार्य होगा।
3. तीसरे खण्ड में निर्धारित कविताओं के काव्य-मूल्यांकन तथा निर्धारित कविताओं सम्बन्धी विस्तृत प्रश्न होंगे।
4. व्याकरणांश के लिए प्राश्निक निर्धारित पाठ्य पुस्तक 'आर्दश हिंदी व्याकरण तथा सैद्धांतिकी' से ही प्रश्न पूछेंगे।

SEMESTER – II

हिन्दी

गद्य साहित्य, सैद्धांतिकी तथा पत्रकारिता

समय : 3 घण्टे **कुल अंकः 100**

नोटः यह प्रश्न-पत्र तीन भागों में विभक्त होगा ।

खण्ड-एक

इस भाग में से 10 प्रश्न पूछे जाएंगे। इस का पांच पंक्तियों में उत्तर देना होगा। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न दो अंकों का है। कुल अंक 20 हैं।

खण्ड-दो

इस भाग में 12 प्रश्न पूछे जाएंगे जिन में से 8 प्रश्नों का उत्तर देना अनिवार्य होगा। प्रत्येक प्रश्न का उत्तर दो पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के छः अंक हैं। कुल अंक 48 है।

खण्ड-तीन

इस भाग में 4 प्रश्न पूछे जाएंगे जिन में से दो प्रश्नों का उत्तर देना अनिवार्य है। प्रत्येक प्रश्न का उत्तर पांच पृष्ठों का होगा। प्रत्येक प्रश्न सोलह अंकों का होगा। कुल अंक 32 हैं।

निर्धारित पाठ्यक्रमः

पाठ्य पुस्तकें :

1. गद्य-त्रयीः सम्पादक डॉ. मधु संधुः प्रकाशक, गुरु नानक देव यूनिवर्सिटी, अमृतसर। (सद्गति कहानी को छोड़ कर शेष पाठ्यक्रम वही है)
2. आदर्श हिंदी व्याकरण और सैद्धांतिकीः डॉ.एच.एम. लाल सूद, वागीश प्रकाशन, जालंधर।
   क. सैद्धान्तिकी : निबन्ध, कहानी, एकांकी, परिभाषा स्वरुप, तत्व प्रकार |
   ख. अशुद्धि लेखन, शब्द युग्म।
3. पत्रकारिताः अर्थ एवं उपयोगिता।

विषयानुकूल अंक विभाजन :

1. प्रथम खण्ड में पाठ्य पुस्तक तथा सैद्धांतिकी से समान अनुपात से प्रश्न पूछे जायेंगे।
2. दूसरे खण्ड में कहानियों तथा निबंधों से दो-दो व्याख्याएं पूछी जायेंगी जिनमें से एक-एक करनी अनिवार्य होंगी। शेष में तीन प्रश्न सैद्धान्तिकी तथा तीन प्रश्न पाठ्य पुस्तक से तथा दो प्रश्न पत्रकारिता से पूछे जायेंगे। प्रत्येक क्षेत्र में से कम से कम एक प्रश्न का उत्तर देना अनिवार्य होगा।
3. तीसरे खण्ड में दो प्रश्न पाठ्य पुस्तक तथा दो सैद्धान्तिक समीक्षा से पूछे जायेंगे और उनमें से एक-एक प्रश्न करना अनिवार्य होगा।

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER – I

Functional Hindi (Vocational)

पेपर-एकः भारत सरकार की राजभाषा नीति और आदिकालीन हिन्दी साहित्य

समय : ढाई घण्टे **पूर्णांकः 50**

लिखित परीक्षाः 40

प्रयोग एवं मौखिकीः 10

क) यह प्रश्नपत्र तीन भागों में बंटा हुआ है। पहले भाग में से दस प्रश्न पूछे जाएंगे। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न 1 अंक का है। कुल अंक 10 हैं।

ख) इस भाग में 8 प्रश्न पूछे जाएंगे जिनमें से 4 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर दो पृष्ठों तक की सीमा का होगा। प्रत्येक प्रश्न के 4 अंक हैं। कुल अंक 16 हैं।

ग) इस भाग में चार प्रश्न पूछे जाएंगे जिनमें से 2 प्रश्नों का उत्तर देना अनिवार्य है। इन प्रश्नों का उत्तर पांच पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के 7 अंक हैं। कुल अंक 14 हैं।

निर्धारित पाठ्यक्रम

(क) भारत सरकार की राजभाषा नीति

सिद्धान्तः

- राजभाषा
- राजभाषा हिन्दी को लागू करने सम्बन्धित प्रावधान (अधिनियम-343,344,348,349)
- राजभाषा अधिनियम-1963 और उसके 1976 में बनाए गए नियम और उनकी विशेषताएं।
- राजभाषा का आदेश -1960
- राजभाषा संकल्प (Resolution), 1968
- राजभाषा हिन्दीः कार्यान्वयन समितियां
- हिन्दी प्रशिक्षण (Training) और प्रोत्साहन (Incentives)

ख) **हिन्दी साहित्य का संदर्भ**

- हिन्दी साहित्य के आदिकाल की विशेषताएं, परिस्थितियाँ, नामकरण, रासो-काव्य परम्परा, रासो ग्रन्थों की प्रामाणिकता और अप्रामाणिकता।

अंक विभाजन

- प्रथम खण्ड में अधिनियम 343, 344, 348, 349 और हिन्दी साहित्य के इतिहास/ हिन्दी प्रशिक्षण और प्रोत्साहन में से 10 प्रश्न करने होंगें। 01x10=10 अंक
- द्वितीय खण्ड में भारत सरकार की राजभाषा नीति 'क' भाग में से प्रश्न पूछे जाएंगे। 8 में से चार प्रश्न करने होंगें। 04x04=16 अंक
- तृतीय खंड में हिन्दी साहित्य के आदिकाल में से 4 प्रश्नों में से 2 प्रश्न करने होंगे। दोनों प्रश्न 7-7 अंक कें होंगे। 07x02=14 अंक

गा. प्रयोग और मौखिकी

इसके अतिरिक्त प्रत्येक विद्यार्थी को एक प्रयोग पुस्तिका तैयार करनी होगी जिसका आकलन एवं मौखिकी विश्वविद्यालय के नियमानुसार की जाएगी।

– शब्दों और वाक्यों की सामान्य अशुद्धियों को शुद्ध करने का अभ्यास।

– विभिन्न स्थानों पर जा कर हिन्दी का विभिन्न स्थितियों में अध्ययन और वास्तविक स्थिति में वार्तालाप का अभ्यास।

10 अंक

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER – I

Functional Hindi (Vocational)

पेपर–दोः हिन्दी का प्रयोगात्मक व्याकरण और कथा साहित्य की समीक्षा

समय : ढाई घण्टे

पूर्णांकः 50
लिखित परीक्षाः 40
प्रयोग एवं मौखिकीः 10

क) यह प्रश्नपत्र तीन भागों में बंटा हुआ है। पहले भाग में से दस प्रश्न पूछे जाएंगे। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न 1 अंक का है। कुल अंक 10 हैं।

ख) इस भाग में 8 प्रश्न पूछे जाएंगे जिनमें से 4 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर दो पृष्ठों तक की सीमा का होगा। प्रत्येक प्रश्न के 4 अंक हैं। कुल अंक 16 हैं।

ग) इस भाग में चार प्रश्न पूछे जाएंगे जिनमें से 2 प्रश्नों का उत्तर देना अनिवार्य है। इन प्रश्नों का उत्तर पांच पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के 7 अंक हैं। कुल अंक 14 हैं।

निर्धारित पाठ्यक्रमः

(क) हिन्दी का प्रयोगात्मक व्याकरण और संवादात्मक हिन्दी

सिद्धान्तः

- हिन्दी भाषा का स्वरूप
- वाक्य संरचना सम्बन्धी नियम
- लिंग, वचन, क्रिया, विशेषण का सामान्य परिचय उपसर्ग, प्रत्यय का व्यावहारिक पक्ष।
- स्वन प्रक्रिया (Phonology) अक्षर (Syllable) बलाघात (accent) और सम्पर्क/एक सूत्रीय भाषा (Connected Speech), लयात्मकता (Rhythm) और अनुतान (Intovation)
- विविध स्थितियों में हिन्दी का प्रयोगात्मक रूप।

ख. कहानी और उपन्यास की परिभाषा , तत्व और प्रकार

अंक विभाजन :

. प्रथम खण्ड में शब्दों तथा वाक्यों की 10 अशुद्धियां शुद्ध करनी होंगी। 1x10=10 अंक

. द्वितीय खण्ड में निर्धारित पाठ्यक्रम के 'क' भाग में से 8 प्रश्नों से चार प्रश्न करने होंगे। 4x04=16 अंक

. तृतीय खण्ड में निर्धारित पाठ्यक्रम के 'ख' भाग से 4 में से 2 प्रश्न कथा–साहित्य में से करने होगें। 7x02=14 अंक

घ) प्रयोग और मौखिकी

इसके अतिरिक्त प्रत्येक विद्यार्थी को एक प्रयोग पुस्तिका तैयार करनी होगी जिसका आकलन एवं मौखिकी विश्वविद्यालय के नियमानुसार की जाएगी।

. राष्टीयकृत बैंकों / पब्लिक सैक्टर / अंडर टेकिंग्स / कार्पोरेशंस और कम्पनियों में हिन्दी में प्रयुक्त होने वाले आंकड़े एकत्रित करना।

. कार्यालयीन-पत्रों के प्रारूप तैयार करना। 10 vkd

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER – II
Functional Hindi (Vocational)

पेपर-एकः प्रयोजनमूलक हिन्दी और प्रशासनिक पत्राचार

समय : ढाई घण्टे **पूर्णांकः 50**
लिखित परीक्षाः 40
प्रयोग एवं मौखिकीः 10

क) यह प्रश्नपत्र तीन भागों में बंटा हुआ है। पहले भाग में से दस प्रश्न पूछे जाएंगे। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न 1 अंक का है। कुल अंक 10 हैं।

ख) इस भाग में 8 प्रश्न पूछे जाएंगे जिनमें से 4 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर दो पृष्ठों तक की सीमा का होगा। प्रत्येक प्रश्न के 4 अंक हैं। कुल अंक 16 हैं।

ग) इस भाग में चार प्रश्न पूछे जाएंगे जिनमें से 2 प्रश्नों का उत्तर देना अनिवार्य है। इन प्रश्नों का उत्तर पांच पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के 7 अंक हैं। कुल अंक 14 हैं।

निर्धारित पाठ्यक्रमः

सिद्धान्तः

क) प्रयोजनमूलक हिन्दी
- प्रयोजनमूलक हिन्दीः अभिप्राय, परिभाषा और स्वरुप
- प्रयोजनमूल हिन्दी : आवश्यकता और विशेषताएँ

ख) प्रशासनिक पत्राचार

सामान्य पत्र और प्रशासनिक-पत्र में अंतर, पत्रों में भेद, मूलरुप में पत्र लिखना (Originating letter), पत्र का उत्तर देना (Reply to letter), पावती (Acknowledgement), स्मारक/स्मरण पत्र (Reminder), अर्धसरकारी पत्र (Semi-official letter), परिपत्र (Circular), आदेश (order) पृष्ठांकन (Endorsement), अन्तर्विभागीय टिप्पणी (Inter-Department Notes), स्तरीय प्रारुप (Standard Drafts), निविदा (Tenders) सूचनाएं (Notices) रिक्त स्थानों के लिए विज्ञापन (Advertisement for Vacancies), प्रैस विज्ञप्ति (Press Communiques), प्रतिवेदन (Reports)

अंक विभाजन

. प्रथम खण्ड में भाग क और ख में से 10 प्रश्न पूछे जाएंगे। 1x10=10 **अंक**
. द्वितीय खण्ड में भाग 'ख' में से 8 प्रश्नों में से चार प्रश्न करने होंगे। 4x04=16 **अंक**
. तृतीय खण्ड में भाग क में से 4 में से 2 प्रश्न करने होगें। 7x02=14 **अंक**

घ) प्रयोग और मौखिकी

इसके अतिरिक्त प्रत्येक विद्यार्थी को एक प्रयोग पुस्तिका तैयार करनी होगी जिसका आकलन एवं मौखिकी विश्वविद्यालय के नियमानुसार की जाएगी।

– प्रशासनिक पत्राचारों के प्रारूप तैयार करना।
– बैठकों की कार्यवाही लिखना। 10 vad

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER – II

Functional Hindi (Vocational)

पेपर-दोः अनुवाद और पारिभाषिक शब्दावली

समय : ढाई घण्टे **पूर्णांकः 50**
लिखित परीक्षाः 40
प्रयोग एवं मौखिकीः 10

क) यह प्रश्नपत्र तीन भागों में बंटा हुआ है। पहले भाग में से दस प्रश्न पूछे जाएंगे। इस भाग के सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न 1 अंक का है। कुल अंक 10 हैं।

ख) इस भाग में 8 प्रश्न पूछे जाएंगे जिनमें से 4 प्रश्नों का उत्तर देना है। इन प्रश्नों का उत्तर दो पृष्ठों तक की सीमा का होगा। प्रत्येक प्रश्न के 4 अंक हैं। कुल अंक 16 हैं।

ग) इस भाग में चार प्रश्न पूछे जाएंगे जिनमें से 2 प्रश्नों का उत्तर देना अनिवार्य है। इन प्रश्नों का उत्तर पांच पृष्ठों तक सीमित होगा। प्रत्येक प्रश्न के 7 अंक हैं। कुल अंक 14 हैं।

निर्धारित पाठ्यक्रम

क. अनुवाद , शब्दावली और वाक्य-वाक्यांश

सिद्धान्तः

- अनुवादः अवधारणा, स्वरुप, क्षेत्र संभावनाएं, सीमाएं और समस्याएं।
- अनुवाद प्रकार
- कार्यालयीन पत्रों का अनुवादः स्मरण पत्र (Reminder), पावती (Acknowledgement), प्रतिवेदन (Report), कार्यसूची (Agenda), टिप्पणी (Minutes), बैठक की कार्यवाही (Proceedings of the Minutes) बैंक, रेलवे, हवाई अड्डा, डाकतार विभाग में प्रयुक्त की जाने वाली पारिभाषिक शब्दावली, वाक्य और वाक्यांश।

ख. पारिभाषिक शब्दावली

- सामान्य शब्द, अर्द्ध-पारिभाषिक शब्द और पारिभाषिक शब्द-अर्थ
- पारिभाषिक शब्दावली-अर्थ, परिभाषा, विशेषताएं, महत्व।

(शब्दावली साथ संलग्न है)

अंक विभाजन

- प्रथम खण्ड (क) में बैंक, रेलवे, हवाई अड्डा, डाकतार विभाग में प्रयुक्त होने वाली शब्दावली, वाक्य-वाक्यांश का अंग्रेजी से हिन्दी तथा हिन्दी से अंग्रेजी अनुवाद करना होगा। कुल 10 प्रश्न करने होंगे। 1x10=10 **अंक**
- द्वितीय खण्ड (ख) में 2 प्रश्न पारिभाषिक शब्दावली तथा 2 प्रश्न अनुवाद में से करने होंगे। 4x04=16 **अंक**
- तृतीय खंड (ग) में अनुवादः अवधारणा, स्वरुप, क्षेत्र, संभावनाएँ, सीमाएं समस्याए, अनुवाद के प्रकार तथा शब्दावली में से 2 प्रश्न करने होंगे। 7x02=14 **अंक**

घ) **प्रयोग और मौखिकी**

इसके अतिरिक्त प्रत्येक विद्यार्थी को एक प्रयोग पुस्तिका तैयार करनी होगी जिसका आकलन एवं मौखिकी विश्वविद्यालय के नियमानुसार की जाएगी।

– बैठकों की कार्यसूची लिखना।

– महाविद्यालयों में आयोजित कार्यक्रमों की रिपोर्ट तैयार करना। 10 vd

Functional Hindi (Vocational)

निर्धारित शब्दावली (बैंकिंग शब्दावली)

1.	Ability to invest	निवेश सामर्थ्य
2.	Acceptance Credit	ऋण साख स्वीकृति
3.	Acceptor	स्करारी
4.	Accounts, Debt	ऋण लेखा/खाता
5.	Accredited	प्रत्यायित
6.	Accreditee	उधार पत्र
7.	Accrued	उपाचित
8.	Advance	अग्रिम
9.	Agio	बट्टा
10.	Allotment of debentures	डिबेंचरों का नियतन
11.	Amortisation payments	ऋण-परिशोधन अदायगियां
12.	Amount claimed	दावे की राशि
13.	Assuser	बीमाकर्ता आश्वासक
14.	At par	सममूल्य पर
15.	At variance with	से भिन्न
16.	Back data	पिछले/पूर्व आंकड़े
17.	Bad debt	अशोध्य ऋण
18.	Balance Book	शेष बही
19.	Balance Due	देय/प्राप्त शेष राशि
20.	Balance of trade	व्यापार संतुलन
21.	Balance	रोकड़ जमा
22.	Bank, Apex	शिखर बैंक
23.	Bank bill	बैंक हुंडी
24.	Bank Cash	बैंक रोकड़

25.	Bank Credit	बैंक साख
26.	Bank Debit	बैंक नामे
27.	Black list	काली सूची
28.	Bring forward	आगे लाना
29.	Capita, per	प्रति व्यक्ति
30.	Capital loss	पूंजीगत हानि
31.	Capitalizaton	पूंजीकरण
32.	Case study	वृत्त अध्ययन
33.	Cheque, Bearer	वाहक चेक
34.	Coin, Base	हीन मूल्य सिक्का
35.	Consignee	परेषिती
36.	Credit Balance	जमा शेष
37.	Daily Balance	दैनिक शेष
38.	Exchange, Stable	स्थिर, विनियम दर
39.	Goodwill	साख/सुनाम
40.	House, Clearing	समाशोधन गृह
41.	Issue	अवनिर्गम
42.	Key-word	सूचक शब्द
43.	Know-how	त्कनीकी जानकारी
44.	Life fund	टाजीवन, विधि
45.	Loan	ऋण
46.	Long term rate	दीर्घावधि दर
47.	Market, Firm	दृढ/मजबूत बाजार
48.	Tax base	कर आधार
49.	Year Accounting	लेखा वर्ष
50.	Wage	मजदूरी

हिन्दी से अंग्रेजी
बैंकिंग शब्दावली

1.	कार्य लागत	Work Cost
2.	मूल्य देय	Value payable
3.	व्यापार चिन्ह	Trade Mark
4.	समयबद्ध	Time Bound
5.	बचत का बजट	Surplus budget
6.	विक्रय स्थल	Selling point
7.	सतत प्रतिभूति	Security continuing
8.	अग्रिम लेखा	Advance account
9.	सूचना पुस्तक	Advice Book
10.	स्थायी परिसम्पतियां	Assets
11.	शेष राशि	Balance in Hand
12.	लाभ राशि	Balance of profit
13.	बैंकिंग पूंजी	Banking capital
14.	बैंकिंग नीति	Banking policy
15.	वाहक/धारक	Bearer
16.	खाता जमा	Book deposit
17.	परिकलन	Calculation
18.	नकद बाजार	Cash market
19.	भुनाया गया चेक	Cheque cashed
20.	वसूली प्रभार	Collection charges
21.	ऋण अंतराल	Credit gap
22.	चालू खाता	Current account
23.	नामे बाकी	Debit balance
24.	गिरती कीमतें	Declining price

25.	मांग पत्र	Demand note
26.	मूल्य ह्रास	Depreciation
27.	आर्थिक मंदी	Economic depression
28.	अंकित मूल्य	Face value
29.	धन	Money
30.	खाता पन्ना	Folio/Ledger
31.	परेषण माल	Good on Consignment
32.	ब्याजी	Interest Bearing
33.	संयुक्त बैंक लेखा	Joint Bank account
34.	श्रम लागत	Labour cost
35.	खाता शेष	Ledger balance
36.	मध्यकालीन ऋण	Loan Medium Term
37.	एकाधिकार बाजार	Market Monopolist
38.	सोने की टकसाल की कीमत	Mint price of gold
39.	बहुविकल्प	Multiple Choice
40.	कटी-फटी हुंडी	Mutilated bill
41.	न हानि न लाभ के आधार पर	No loss no profit base
42.	विकृत नोट	Note, Soiled
43.	ओवर ड्राफट	Over draft
44.	ऊपरी व्यय	Overhead cost
45.	सममूल्य	Per value
46.	प्रति व्यक्ति	Per Capita
47.	आजीवन पालिसी	Policy, whole life
48.	मूल्य रेखा	Price line
49.	मूल्य चक्र	Price cycle
50.	क्रय धन	Purchase Money

हिन्दी से अंग्रेजी
रेलवे विभाग की शब्दावली

1.	टवधि टिकट	Season ticket
2.	अमानती सामान घर	Clock room
3.	अर्जित आय	Earned Income
4.	आगमन	Arrival
5.	आमने सामने की टक्कर	Head on collision
6.	टारक्षण	Reservation
7.	आधा किराया	Half fair
8.	ठतर रेलवे	Foreign Railway
9.	उप-मार्ग	By-pass
10.	ऊपरी पुल	Over-bridge
11.	अंकित मूल्य	Face value
12.	कर्मचारी	Staff
13.	कक्ष	Compartment
14.	कार्ड टिकट	Card ticket
15.	खतरे की जंजीर	Alarm chain
16.	खान-पान	Catering
17.	खुला माल डिब्बा	Open wagon
18.	गलत मार्ग	Wrong route
19.	गाड़ी पटरी पर	Train on line
20.	गार्ड का डिब्बा	Guard's Van
21.	चलती गाड़ी	Running Train
22.	चालू करना	Switching in
23.	चिटकनी	Bold
24.	ढुंगी	Terminal charges

25.	जलमार्ग	Waterway
26.	टिकट घर	Booking office
27.	टैरिफ	Tariff
28.	डाक गाड़ी	Mail train
29.	डिब्बा	Compartment
30.	ले जाना	Carry
31.	तीर्थयात्री कर	Pilgrim tax
32.	दावा	Claims
33.	दुर्घटना स्थल	Site of accident
34.	दोहरी लाइन	Double line
35.	नियन्त्रक	Controller
36.	निर्देशन	Direction
37.	प्रभार	Charges
38.	प्लेटफार्म टिकट	Platform Ticket
39.	बुक किया मार्ग	Booked route
40.	भारतीय रेल	Indian Railway
41.	माल गाड़ी	Goods Train
42.	यात्रा टिकट	Journey Ticket
43.	रोक दूरी	Brake distance
44.	वातानुकूलित	Air conditioned
45.	वापसी टिकट	Return ticket
46.	शाखा लाइन	Branch line
47.	साधारण किराया	Ordinary fare
48.	स्लीपर	Sleeper
49.	हाथ ब्रेक	Hand brake
50.	हाथ शंटिंग	Hand Shunting

ENGLISH TO HINDI

1.	Dead slow	अत्यन्त धीरे
2.	Over time	अतिरिक्त समय
3.	Seat	आसन
4.	Rest Room	आराम कमरा
5.	Average speed	औसत गति
6.	Points	काँटे
7.	Personnel	कार्मिक
8.	Coach	ग्द्वी
9.	Detrain	गाड़ी से उतरना या उतारना
10.	Thick fog	घना कोहरा
11.	Charge man	चार्ज मैन
12.	Sort	छांटना
13.	Credit Note	जमा पत्र
14.	Dispute	झगड़ा
15.	Contract	ठेका
16.	Determine	तय करना
17.	Class	दर्जा
18.	Rate	छर
19.	Capacitor	धारक
20.	Lower class	निचला दर्जा
21.	Damages	नुकसानी
22.	Resistance	प्रतिरोध
23.	Tourist	पर्यटक
24.	Package	पैक करना
25.	Replace	ब्दलना

26.	Obstruction	बाधा
27.	Shorel	ब्लेचा
28.	Freight	भाड़ा
29.	Despatch	भेजना
30.	Quote	भाव देना
31.	Arch	महराब
32.	Commodity	मल
33.	Quantity	मात्रा
34.	Van	यान
35.	Night shift	रात की पाली
36.	Train	रेलगाड़ी
37.	Detain	श्रोकना
38.	Return Ticket	वापसी टिकट
39.	Carriage	वहन
40.	Indicator	स्केतक
41.	Collection	संग्रहण
42.	Stores	समान
43.	Through Train	सीधी गाड़ी
44.	Stock Rail	स्थिर पटरी
45.	Push trolly	हाथ ठेला
46.	Hand shunting	हाथ शंटिंग
47.	Through Booking	सीधी बुकिंग
48.	Notice	सूचना
49.	Collaboration	सहयोग
50.	Relief train	राहत गाड़ी

डाक तार विभाग में प्रयुक्त होने वाली शब्दावली

1.	Inland air-mail	अंतर्देशीय हवाई डाक
2.	Inland air-mail service	अंतर्देशीय हवाई डाक सेवा
3.	International post	अंतर्राष्ट्रीय डाक
4.	Most immediate call	अति तात्कालिक काल
5.	No delivery	अवितरण, वितरण नहीं
6.	Sectional mail bag	अनुभागीय डाक-थैला
7.	Small saving fund	अध्य बचत निधि
8.	Unclaimed article	अ-दावी वस्तु
9.	Unclaimed money	अ-दावी मनीआर्डर
10.	Emergency call	अपात्काल
11.	Inward Land rate	आवक देश दर
12.	Inward mail	आवक डाक
13.	Credit care ticket	उधार काल टिकट
14.	Extension telephone	उपटेलीफोन
15.	Gift coupan	उपहार कूपन
16.	Gift parcel	उपहार पार्सल
17.	Output voltage	उत्पादन वोल्टता
18.	Satelite exchange	उपग्रह-केन्द्र
19.	Sub-post office	उपडाक घर
20.	Cable code	केबिल कोड
21.	Cable fault	केबिल दोष
22.	Cable guard	केबिल रक्षक
23.	Cable house	केबिल घर
24.	Cable terminal box	केबिल टर्मिनल बक्स
25.	Call counting meter	काल गणन मीटर

26.	Code word	कोड शब्द
27.	Duration of call	काल की अवधि
28.	Message in code	कोड भाषा में शब्द
29.	Misdelivery	गल्त डिलिवरी
30.	Microphone	ध्वनिग्राही
31.	Reply postcard	टेलीफोन केन्द्र
32.	Mail agent	डाक ऐजन्ट
33.	Post	डाक से भेजना
34.	Postage	डाक शुल्क
35.	First day cover	प्रथम दिवस आवरण
36.	Call bell	बुलावा घंटी
37.	Call signal	बुलावा संकेत
38.	Indian postal service	भारतीय डाक सेवा
39.	Meter reading	मीटर पठन
40.	Cash certificate	रोकड़ प्रमाण पत्र
41.	Cash counter	रोकड़ पटल
42.	Short circuit	लघु पथक
43.	Advice of delivery	वितरण सूचना
44.	Dry battery	शुष्क बैटरी
45.	Dry code cable	शुष्क कोड केबल
46.	Army post office	सेना डाक घर
47.	Combined mail	स्युक्त डाक थैला
48.	Message code	संदेश संकेत
49.	Ordinary telegram	सधारण काल
50.	Service post card	सरकारी पोस्टकार्ड

डाक तार विभाग में प्रयुक्त होने वाली शब्दावली

1.	अनामक संदेश	Anonymous communication
2.	अंतर्देशीय हवाई	Inland air-mail
3.	अंतविष्ठ प्रेषित	Inland letter
4.	अंतर्राष्ट्रीय डाक	International post
5.	अति तात्कालिक काल	Most immediate call
6.	अवितरण , वितरण नहीं	No delivery
7.	अनापित प्रमाण पत्र	Non-objection certificate
8.	आपतिजनक काल	Obnonious call
9.	अनुभागीय डाक-थैला	Sectional mail bag
10.	अ-दावी वस्तु	Unclaimed article
11.	अ-दावी मनीआर्डर	Unclaimed money
12.	आपातकाल	Emergency call
13.	आवक विदेश पार्सल	Inward foreign parcel
14.	आवक देश दर	Inward land rate
15.	आवक डाक	Inward mail
16.	आवती	Recurring
17.	उधार काल टिकट	Credit call ticket
18.	उप टेलिफोन	Extension telephone
19.	उपहार कूपन	Gift Coupan
20.	उपहार पार्सल	Gift parcel
21.	उत्पादन वोल्टता	Output voltage
22.	उपग्रह केन्द्र	Satelite Exchange
23.	उप-डाकघर	Sub-post office
24.	केबिल कोड	Cable Code
25.	केबिल दोष	Cable fault

26.	केबिल रक्षक	Cable guard
27.	केबिल घर	Cable house
28.	केबिल टर्मिनल बक्स	Cable terminal box
29.	काल गणन मीटर	Call counting meter
30.	कोड शब्द	Code word
31.	केन्द्रीय तार घर	Central telegraph office
32.	काल की अवधि	Duration of call
33.	कोड भाषा में संदेश	Message in code
34.	गल्त डिलिवरी	Misdlivery
35.	ध्वनिग्राही	Microphone
36.	टेलीफोन केन्द्र	Reply postcard
37.	डाक ऐजन्ट	Mail agent
38.	डाक थैला	Mail bag
39.	तार पता	Telegraphic address
40.	प्रथम दिवस आवरण	First day cover
41.	बुलावा घंटी	Call Bell
42.	बुलावा संकेत	Call signal
43.	भारतीय डाक सेवा	Indian postal service
44.	मीटर पठन	Meter reading
45.	रोकड़ प्रमाण पत्र	Cash certificate
46.	रोकड़ पटल	Cash counter
47.	लघु पथ	Short circuit
48.	शुष्क बैटरी	Dry battery
49.	सेना डाकघर	Army post office
50.	संयुक्त डाक थैला	Combined mail

SEMESTER–I
SANSKRIT

le; : 3 ?k.V vad: 100

ikB~;Øe &

¼d½ ipruU= dk vijhf{krdkjd vad: 50

¼pUnHkkifr dFkk dh lekfIr rd vFkkr~ 'yksd 80 rd½

¼[k½ O;kdj.k vad: 50

o.kksPpkj.k
vO;;
d`= ;= r= lo= fpje~ iqu% 'o% lnk ;nk
dnk ;Fkk rFkk v/kquk vfi ,oe~

l[;k&1 ls 100 rd
Loj lfU/k
/kkrq:i ¼yV~ ykV~ yV~ y³~ fof/kfy³~ ydkjksa esa½
Hokfnx.k&Hkw iB~ gl~ fy[k~ on~ xe~ ir~ n`'k~ Le~ ipA
vnkfnx.k&vlA
tqgksR;kfnx.k&nkA
fnokfnx.k&fno~ u`r~ u'kA
Lokfnx.k&'kd~ JqA
rukfnx.k&d`A

i`'ui= fuekZ.k funsZ'k &

I. vijhf{krdkjd ds fu/kkZfjr va'k ls 10 'yksdksa esa ls 5 dh iz\lax lfgr O;k[;k &
vad: 5x7 = 35

II. vijhf{krdkjd ds fu/kkZfjr va'k ls 4 dFkk uke nsdj 2 dk lkjka'k ,oa f'k{kk &
vad: 2x7½ = 15

III. ¼d½ 4 o.kZ nsdj 2 dk mPpkj.k LFkku & vad: 2x2 = 4
¼[k½ 6 vO;; nsdj 3 dk okD;ksa esa iz;ksx & vad: 3x2 = 6

IV. fu/kkZfjr la[;kvksa esa ls fgUnh esa 20 la[;k;sa nsdj 10 dks laLd`r esa fy[kokuk &
vad: 10x1 = 10

V. Loj lfU/k ds 10 lfU/k@lfU/kfoPNsn nsdj 5 dk lfU/kfoPNsn@lfU/k &
vad: 5x2 = 10

VI. fu/kkZfjr /kkrqvksa esa ls 8 /kkrq nsdj 4 ds fu/kkZfjr ydkjksa esa :i &
vad: 4x5 = 20

SEMESTER–II
SANSKRIT

le;: 3 ?k.Vs vad: 100

ikB~;Øe &

¼d½ Hkkjrgfj dk uhfr'krd ¼1 ls 50 'yksd½ vad: 50

iz'uksa ds fy, fu/kkZfjr fcUnq &
fo|kefgek /ku egÙo eq[k i)fr fo}ku~ i)fr lRlaxfr
fu/kkZfjr va'k dk lkj@egÙo] dfoifjp;A

¼[k½ 0;kdj.k vad: 50

'kCn:i & jke gfj Qy nso fir` iqLrd lk/kq
yrk jek ekr` unh xq#
rFkk
,d f} f= prqj~ ¼iqfYyax esa½

dkjd & vfHkrr~ ifjr~ loZr~ vye~ lg lk/ke~ lkde~
lee~ le;k fud"kk vUrjk vUrj.k f/kd~ ue~
LofLr Lokgk vuq fouk ds ;ksx esa foHkfDr
rFkk
lEcks/ku deZ dj.k lEiznku vikknku lEc/k
vf/kdj.k esa foHkfDrA

dnUr :i & Hkw iB~ gl~ fy[k~ on~ xe~ ir~ n'k~ Le` ip~
vl~ nk fno~ ur~ u'k~ 'kd~ Jq d` /kkrqvksa ds
lkFk Dr] Drorq DRok] rqequ] r0;r~ rFkk vuh;j~
izR;;ksa dk ;ksxA

vuqokn & fgUnh ls laLd`r

iz'ui= fuekZ.k funsZ'k &

I. uhfr'krd ds fu/kkZfjr va'k ds 6 i|ksa esa ls 3 dh izlax lfgr 0;k[;k & vad: 3x10=30

II. uhfr'krd ds fu/kkZfjr va'k dh 4 lwfDr;ksa esa ls 2 dh izlax lfgr 0;k[;k & vad: 2x5=10

III. uhfr'krd ds fu/kkZfjr fcUnqvksa ij 2 iz'u esa ls ,d dk mÙkj & vad: 1x10=10

IV. 8 esa ls 4 ds 'kCn:i & vad: 4x5=20

V. 10 esa ls 5 inksa ds ;ksx esa@dkjdksa esa vkus okyh foHkfDr fy[kokuk & vad: 5x2=10

VI. 10 esa ls 5 /kkrqvksa ds lkFk fufnZ"V izR;; yxkdj dnUr :i & vad: 5x2=10

VII. lkekU; Lrj ds 10 fgUnh okD;ksa esa ls 5 dk laLd`r esa vuqokn & vad: 5x2=10

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–I
FUNCTIONAL SANSKRIT (VOCATIONAL)

Time: 3 Hours **Max. Marks: 100**

Note: Paper will have 3 Sections i.e. Section A, B & C.

Section–A

In this Section 10 objective type questions of 2 marks each will be asked. All questions will be compulsory with a total weightage of 20 marks.

Section–B

In this Section 12 short answer type questions will be asked. Candidates will have to attempt 8 questions carrying 6 marks each with a total weightage of 48 marks.

Section–C

In this Section 4 questions will be asked. Candidates will have to attempt 2 questions. Each question will carry 16 marks with a total weightage of 32 marks.

ikB;Øe &

Hkkjrh; lLdfr dk LFky ifjp;
Hkkjrh; lLdfr d xká rŸo
/kkfed fof/k;k d mnn’; ,o i;ktu
lU/;koUnu fof/k
ik.kk;ke fof/k
ipkx ifjp;
T;kfr"k 'kkL= ifjp;
Tkkrdjpuki dk’kd
vfXu vkokgu fof/k
'kkfUr gke

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–II
FUNCTIONAL SANSKRIT (VOCATIONAL)

Time: 3 Hours **Max. Marks: 100**

Note: Paper will have 3 Sections i.e. Section A, B & C.

Section–A

In this Section 10 objective type questions of 2 marks each will be asked. All questions will be compulsory with a total weightage of 20 marks.

Section–B

In this Section 12 short answer type questions will be asked. Candidates will have to attempt 8 questions carrying 6 marks each with a total weightage of 48 marks.

Section–C

In this Section 4 questions will be asked. Candidates will have to attempt 2 questions. Each question will carry 16 marks with a total weightage of 32 marks.

ikB;Øe &

fuR;deh fofo/k fo/kku

lkekU; nso iwtk fof/k

"kkM'kkipkjfof/k

fof'k"Vnoiwtkfof/k

ip;Kdehfof/k

"kkM'k lLdkj % lkekU; ifjp;

lLdkjksa dk mn~ns'; ,oa i;kstu

xHkkZ/kku lLdkj

iqlou lLdkj

fookg lLdkj

o.kkZJe 0;oLFkk % lkekU; ifjp;

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER – I
ENGLISH (COMPULSORY)

Time: 3 Hours **Total Marks: 50**

Texts Prescribed:

1. Tales of Life (Guru Nanak Dev University, Amritsar)
2. Prose for Young Learners (Guru Nanak Dev University, Amritsar)
3. Murphy's English Grammar, (Raymond Murphy), 3rd Ed. CUP 2004, Rept. 2005.

Course Contents:

1) Stories at Sr.No. 1,2,3,5,6 from *Tales of Life*.
2) Essays at Sr.No. 1,2,3,5,6 from *Prose for Young Learners.*
3) Unit 1–37 from *Murphy's English Grammar*.

Division of Marks:

Section–A:

Twenty (20) questions on the usage of grammar related to units 1–37 of Murphy's English Grammar. All questions will be compulsory. (½ x 20=10 Marks)

Section–B:

I. Eight (8) questions from the two literary texts (four from Tales, four from Prose). The students will be required to attempt any five choosing at least two questions from each prescribed text. The answers should not exceed 15 lines each. (3x5=15 Marks)

II. Eight (8) questions on vocabulary testing meaning and usage of items glossed in the two prescribed text. All questions will be compulsory. (½x8=4 Marks)

III. Translation of a short passage from English to Hindi/Punjabi

OR

Precise of a short passage (only for foreign students who do not know Punjabi / Hindi. (5 Marks)

Section–C:

I. There will be two questions one from each literary text. The students will be required to answer any one.(1x8=8 Marks)

II. Writing a paragraph (1 out of 2) (1x8=8 Marks)

SEMESTER – II
ENGLISH (COMPULSORY)

Time: 3 Hours **Total Marks: 50**

Texts Prescribed:

1. Tales of Life (Guru Nanak Dev University, Amritsar)
2. Prose for Young Learners (Guru Nanak Dev University, Amritsar)
3. Murphy's English Grammar, (Raymond Murphy), 3rd Ed. CUP 2004, Rept. 2005.

Course Contents

1) Stories at Sr.No.7,9,10,11,12 from *Tales of Life*.
2) Essays at Sr.No.7,8,9,10,11 from *Prose for Young Learners.*
3) Unit 121–136, 69–91 from *Murphy's English Grammar*.

Division of Marks:

Section–A:

Twenty (20) questions on the usage of grammar related to units 121–136, 69–91 of Murphy's English Grammar. All questions will be compulsory. (½ x 20=10 Marks)

Section–B:

I. Eight (8) questions from the two literary texts (four from Tales, four from Prose). The students will be required to attempt any five choosing at least two questions from each prescribed text. The answers should not exceed 15 lines each. (3x5=15 Marks)
II. Eight (8) questions on vocabulary testing meaning and usage of items glossed in the two prescribed text. All questions will be compulsory. (½x8=4 Marks)
III. A personal letter (1 out of 2) (5 Marks)

Section–C:

I. There will be two questions one from each literary text. The students will be required to answer any one.(1x8=8 Marks)
II. Comprehension of a passage (about 200 words) selected from either of the prescribed books of *Prose* or *Tales*. (4 short questions of 2 marks each) (4x2=8 Marks)

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–I
PAPER–A: ENGLISH (ELECTIVE)

Time: 3 Hours **Total Marks: 50**

Prescribed Books:

1. *The Apple Cart*: G.B. Shaw
2. *Glossary of Literary Terms* (eighth edition) by M.H. Abrams, Wadsworth CENGAGE Learning Publishers, 8th Edn., 2008.

The following literary terms are prescribed for study:

Alliteration, Allusion, Allegory, Ballad, Burlesque, Character, Comedy, Connotation, Epic, Plot.

Instructions for the Paper Setters:

Section–A

I. Five questions (not exceeding 60 words) from the play. All questions will be compulsory. (5x2=10 Marks).

Section–B:

I. Explanation with reference to the context from the play (2 out of 3) (2x6=12 Marks).
II. Notes on literary terms (4 out of 6) (4x3=12 Marks).

Section–C:

I. Long answer type questions in 500–600 words from the play (2 out of 3) (2x8=16 Marks).

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–I
PAPER–B: ENGLISH (ELECTIVE)

Time: 3 Hours **Max. Marks: 50**

Books Prescribed:

The Vendor of Sweets by R.K. Narayan.

Study Reading: A Course in Reading Skills for Academic Purposes by E.H. Glendinning and B.Holmstrom, CUP Press, South Asian Edition 2007, Sept 2008. (Unit–I to V).

Division of Marks:

Section–A:

1. 5 questions from the Novel (in not more than 5 sentences). All questions will be compulsory (5x1=5 Marks).
2. 5 questions related to the tasks given in *Study Reading* (in not more than 3 sentences). All questions will be compulsory (5x1=5 Marks).

Section–B:

1) Short answer type questions related to incidents, anecdotes, minor characters, the use of figure of speech, tone etc. from the novel (4 out of 6) (4x3=12 Marks).
2) Short answer type questions of practical nature related to the tasks in the Text Exploration section in each prescribed unit of *Study Reading.* (4 out of 6)
(4x3=12 Marks).

Section–C:

1. Essay type question (in 500 –600 words) from the Novel. (1 out of 2) (1x8=8 Marks).
2. Question consisting of tasks in Application section in each prescribed unit of *Study Reading.* (1 out of 2) (1x8=8 Marks).

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–II
PAPER–A: ENGLISH (ELECTIVE)

Time: 3 Hours **Max. Marks: 50**

Prescribed Books:

1. *Spots of Time*: GNDU Publication.
2. *Glossary of Literary Terms* (eighth edition) by M.H. Abrams, Wadsworth CENGAGE Learning Publishers, 8th Edn., 2008.

The following literary terms are prescribed for study:

Conceit, Elegy, Hyperbole, Irony, Metaphor, Narrative and Narratology, Paradox, Poetic Justice, Pun, Point of View.

Instructions for Paper Setters:

Section–A

I. Five questions (not exceeding 60 words) from *Spots of Time*. All questions will be compulsory. (5x2=10 Marks).

Section–B:

II. Explanation with reference to the context from *Spots of Time* (2 out of 3) (2x6=12 Marks).
III. Notes on literary terms (4 out of 6) (4x3=12 Marks).

Section–C:

I. Long answer type questions in 500–600 words from *Spots of Time* (2 out of 3) (2x8=16 Marks).

SEMESTER–II
PAPER–B: ENGLISH (ELECTIVE)

Time: 3 Hours **Max. Marks: 50**

Books Prescribed:

The School for Scandal by R.B. Sheridan

Study Reading: A Course in Reading Skills for Academic Purposes by E.H. Glendinning and B.Holmstrom, CUP Press, South Asian Edition 2007, Sept 2008. (Unit–VI to X)

Division of Marks:

Section–A:

1. 5 questions from the play (in not more than 5 sentences). All questions will be compulsory (5x1=5 Marks).
2. 5 questions related to the tasks given in *Study Reading* (in not more than 3 sentences). All questions will be compulsory (5x1=5 Marks).

Section–B:

1. Short answer type questions related to incidents, anecdotes, minor characters, the use of figure of speech, tone etc. from the play (4 out of 6) (4x3=12 Marks).
2. Short answer type questions of practical nature related to the tasks in the Text Exploration section in each prescribed unit of *Study Reading.* (4 out of 6) (4x3=12 Marks).

Section–C:

1. Essay type question (in 500 –600 words) from the play (1 out of 2) (1x8=8 Marks).
2. Question consisting of tasks in Application section in each prescribed unit of *Study Reading.* (1 out of 2) (1x8=8 Marks).

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–I
FUNCTIONAL ENGLISH (VOCATIONAL)

PAPER–A: PHONETICS AND PHONOLOGY

Time: 2½ Hours **Total Marks: 50**
Theory Marks: 30
Practical Marks: 20

Books Prescribed:
1. Collins Cobuild Eng. Grammar Work Book.
2. F.T. Wood—Remedial Grammar for Foreign Students, Macmillan, 1965.

Course Contents:
Unit–I : The phonology of English: Phonetic Symbols for Consonants, Vowels and Diphthongs, Consonant clusters
Unit–II : The Syllable
Unit–III : Weak Forms and Contractions

Division of Marks:
Section–A: Eight very short answer type questions. All questions will be compulsory. (8x1=08 marks)
Section–B: Short answer type questions (4 out of 7) (4x3=12 Marks)
Section–C: Long answer type questions (2 out of 4) (2x5=10 Marks)

Suggestions for Teaching:

1. Lists of minimal pairs may be used (eg. cot–court, ship–sheep, etc.) for practice in listening and speaking.
2. Emphasis is to be placed on the use of spoken language rather than on theory. Once the learners are familiar with the speech sounds, patterns of stress and intonation, they must be given intensive practice in these areas.
3. It must be made clear that the model of pronunciation is not strictly R.P. Learners should follow the dictionary as closely as possible but wherever there are differences between R.P. and the sounds used in Indian English, these differences can be accepted if they do not interfere with intelligibility and clarity of speech. (Teachers may not insist on a perfect articulation of RP sounds.)

Written: Giving symbols for sounds, breaking words into syllables, marking stress in words and sentences, etc.
Practicals: Speaking and listening tasks.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–I
FUNCTIONAL ENGLISH (VOCATIONAL)

PAPER–B: REMEDIAL GRAMMAR

Time: 2½ Hours **Total Marks: 50**

Books Prescribed:

1. Collins Cobuild Eng. Grammar Work Book.
2. F.T. Wood—Remedial Grammar for Foreign Students, Macmillan, 1965.
3. The Written Word by Vandana R Singh, Oxford University Press.

Course Contents:

Unit–I: Parts of Speech : Nouns : Singular & Plural; Articles–definite/ Indefinite; Verbs–Linking Verbs; Intrasitive/transitive verbs, regular/Irregular verbs; Auxiliary Verbs.

Unit–II: Tenses and their use Adjectives, Adverbs, Prepositions and Pronouns Confusion of Adjective–Adverbs. Difficulties with comparatives and superlatives Confusion of gerunds and participle errors of concord.

Unit–III: Report Writing, Paraphrasing, Precis writing.

Division of Marks:

Section–A: Ten questions from Unit–I in Do as directed format. (10x1=10 Marks)
Section–B: (a) Twenty questions from Unit–II (20x1=20 Marks)
(b) Paraphrasing (04 Marks)
Section–C: Two questions on report writing with internal choice and Precis writing. (2x8=16 Marks)

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–II
FUNCTIONAL ENGLISH (VOCATIONAL)

PAPER–A: PHONETICS AND PHONOLOGY

Time: 2½ Hours **Total Marks: 50**
Theory Marks: 30
Practical Marks: 20

Books Prescribed:
1. Collins Cobuild Eng. Grammar Work Book.
2. F.T. Wood—Remedial Grammar for Foreign Students, Macmillan, 1965.

Course Contents:
Unit–I: Word Stress
Unit–II: Sentence Stress
Unit–III: Intonation: Patterns of Intonation in simple sentence types.

Division of Marks:
Section–A: Eight very short answer type questions. All questions will be compulsory. (8x1=08 marks)
Section–B: Short answer type questions (4 out of 7) (4x3=12 Marks)
Section–C: Long answer type questions (2 out of 4) (2x5=10 Marks)

Suggestions for Teaching:
1. Emphasis is to be placed on the use of spoken language rather than on theory. Once the learners are familiar with the speech sounds, patterns of stress and intonation, they must be given intensive practice in these areas.
2. It must be made clear that the model of pronunciation is not strictly R.P. Learners should follow the dictionary as closely as possible but wherever there are differences between R.P. and the sounds used in Indian English, these differences can be accepted if they do not interfere with intelligibility and clarity of speech. (Teachers may not insist on a perfect articulation of RP sounds.)

Written: Giving symbols for sounds, breaking words into syllables, marking stress in words and sentences, etc.

Practicals: Speaking and listening tasks.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Languages)

SEMESTER–II
FUNCTIONAL ENGLISH (VOCATIONAL)

PAPER–B: REMEDIAL GRAMMAR

Time: 2½ Hours **Total Marks: 50**

Books Prescribed:

1. Collins Cobuild Eng. Grammar Work Book.
2. F.T. Wood—Remedial Grammar for Foreign Students, Macmillan, 1965.
3. The Written Word by Vandana R Singh, Oxford University Press.

Course Contents:

Unit–I: Types of Sentences: Transformation–Negative, Interrogative Passive/Active Voice.

Unit–II: Question Tags, Direct–Indirect speech (Narration). Use of Who–whom, much–many, still–yet, so that, so as, make and do, errors in use of individual words; requests, greetings, use of courtesy words–introduction, complaints, refusals.

Unit–III: Comprehension passage, letter writing, paragraph writing.

Division of Marks:

Section–A: Ten questions from Unit–I in Do as directed format. (10x1=10 Marks)
Section–B: (a) Twenty questions from Unit–II (20x1=20 Marks)
(b) Comprehension (4 Marks)
Section–C: Two questions on letter writing and paragraph writing with internal choice. (2x8=16 Marks)

ਸਮੈਸਟਰ ਪਹਿਲਾ

ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)

ਸਮਾਂ: 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 50**

ਪਾਠ–ਕ੍ਰਮ ਅਤੇ ਪਾਠ–ਪੁਸਤਕਾਂ

1. **ਗਿਆਨ–ਵਿਗਿਆਨ** (ਸੰਪਾ. ਹਰਿਭਜਨ ਸਿੰਘ ਭਾਟੀਆ ਅਤੇ ਪ੍ਰੋ. ਪਰਸ਼ੋਤਮ ਸਿੰਘ ਬੱਲ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
   ਲੇਖ: ਜ਼ਿੰਦਗੀ ਤੇ ਸਾਹਿਤ, ਲੋਕ–ਕਲਾ, ਧੁਨੀ ਅਤੇ ਮਨੁੱਖ, ਉਦਯੋਗ ਅਤੇ ਅੱਖ।
2. **ਪੰਜਾਬ ਦੇ ਮਹਾਨ ਕਲਾਕਾਰ** (ਬਲਵੰਤ ਗਾਰਗੀ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
   ਲੇਖ: ਅੰਮ੍ਰਿਤਾ ਸ਼ੇਰਗਿਲ, ਕੇ.ਐਲ. ਸਹਿਗਲ, ਬੜੇ ਗ਼ੁਲਾਮ ਅਲੀ ਖਾਂ, ਸੋਭਾ ਸਿੰਘ, ਪ੍ਰਿਥਵੀਰਾਜ ਕਪੂਰ, ਭਾਈ ਸਮੁੰਦ ਸਿੰਘ।
3. **ਪੈਰ੍ਹਾ ਰਚਨਾ**
4. **ਪੈਰ੍ਹਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ**।
5. (ੳ) **ਪੰਜਾਬੀ ਧੁਨੀ ਵਿਉਂਤ** : ਉਚਾਰਨ ਅੰਗ, ਉਚਾਰਨ ਸਥਾਨ ਤੇ ਵਿਧੀਆਂ, ਸਵਰ, ਵਿਅੰਜਨ, ਸੁਰ।
   (ਅ) **ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ** : ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪ–ਭਾਸ਼ਾ ਦਾ ਅੰਤਰ, ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ–ਚਿੰਨ੍ਹ ।
6. **ਮਾਤ ਭਾਸ਼ਾ ਦਾ ਅਧਿਆਪਨ**
   (ੳ) ਪਹਿਲੀ ਭਾਸ਼ਾ ਦੇ ਤੌਰ ਉੱਤੇ
   (ਅ) ਦੂਜੀ ਭਾਸ਼ਾ ਦੇ ਤੌਰ ਉੱਤੇ

ਅੰਕ–ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ:

1.	ਕਿਸੇ ਨਿਬੰਧ ਦਾ ਸਾਰ ਜਾਂ ਉਸਦਾ ਵਿਸ਼ਾ ਵਸਤੂ (ਦੋ ਵਿਚੋਂ ਇਕ) ।	10 ਅੰਕ
2.	ਵਾਰਤਕ ਰੂਪ : ਰੇਖਾ ਚਿਤਰ, ਨਾਇਕ ਬਿੰਬ, ਕਲਾਤਮਕ ਗੁਣ, ਰੇਖਾ ਚਿਤਰ ਸਾਹਿਤ ਨੂੰ ਦੇਣ	10 ਅੰਕ
3.	ਪੈਰ੍ਹਾ ਰਚਨਾ : ਤਿੰਨ ਵਿਸ਼ਿਆਂ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਉਤੇ ਪੈਰ੍ਹਾ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇ ।	5 ਅੰਕ
4.	ਪੈਰ੍ਹਾ ਦੇ ਕੇ ਉਸ ਬਾਰੇ ਪੰਜ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ	5 ਅੰਕ
5.	ਨੰਬਰ 5 ਉਤੇ ਦਿੱਤੀ ਵਿਆਕਰਣ ਦੇ ਆਧਾਰ ਤੇ ਵਰਣਨਾਤਮਕ ਪ੍ਰਸ਼ਨ	10 ਅੰਕ
6.	ਨੰਬਰ 6 ਵਿਚ ਮਾਤ ਭਾਸ਼ਾ ਦੇ ਪਹਿਲੀ ਭਾਸ਼ਾ ਅਤੇ ਦੂਜੀ ਭਾਸ਼ਾ ਵਜੋਂ ਅਧਿਆਪਨ, ਮਹੱਤਵ ਅਤੇ ਸਮੱਸਿਆਵਾਂ ਬਾਰੇ ਚਾਰ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ, ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਦੋ ਦਾ ਉੱਤਰ ਦੇਣਾ ਹੋਵੇਗਾ।	5×2=10 ਅੰਕ

ਸਮੈਸਟਰ ਦੂਜਾ

ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)

ਸਮਾਂ: 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 50**

ਪਾਠ–ਕ੍ਰਮ ਅਤੇ ਪਾਠ–ਪੁਸਤਕਾਂ

1. **ਗਿਆਨ–ਵਿਗਿਆਨ** (ਸੰਪਾ. ਹਰਿਭਜਨ ਸਿੰਘ ਭਾਟੀਆ ਅਤੇ ਪ੍ਰੋ. ਪਰਸ਼ੋਤਮ ਸਿੰਘ ਬੱਲ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
   ਲੇਖ : ਜੀਵਨ ਦਾ ਮੁੱਢ, ਕੀ ਮੌਤ ਨਾਮ ਨਾਸ ਹੋਣ ਦਾ ਹੈ?, ਵਿਸ਼ਵ ਯੁੱਧ, ਰਣਜੀਤ ਸਿੰਘ – ਪੰਜਾਬੀਅਤ ਦਾ ਪ੍ਰਤੀਕ, ਪੰਜਾਬ ਦਾ ਸਨਅਤੀ ਵਿਕਾਸ।
2. **ਪੰਜਾਬ ਦੇ ਮਹਾਨ ਕਲਾਕਾਰ** (ਬਲਵੰਤ ਗਾਰਗੀ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
   ਲੇਖ : ਸਤੀਸ਼ ਗੁਜਰਾਲ, ਗੁਰਚਰਨ ਸਿੰਘ, ਠਾਕੁਰ ਸਿੰਘ, ਬਲਰਾਜ ਸਾਹਨੀ, ਸੁਰਿੰਦਰ ਕੌਰ।
3. **ਸ਼ਬਦ–ਬਣਤਰ ਅਤੇ ਸ਼ਬਦ ਰਚਨਾ** : ਪਰਿਭਾਸ਼ਾ, ਮੁਢਲੇ ਸੰਕਲਪ।
4. **ਸ਼ਬਦ ਸ਼੍ਰੇਣੀਆਂ**
5. **ਪੈਰ੍ਹਾ ਰਚਨਾ**
6. **ਪੈਰ੍ਹਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ**
7. **ਮੁਹਾਵਰੇ ਅਤੇ ਅਖਾਣ**

ਅੰਕ–ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ:

1.	ਕਿਸੇ ਨਿਬੰਧ ਦਾ ਸਾਰ ਜਾਂ ਉਸਦਾ ਵਿਸ਼ਾ ਵਸਤੂ (ਦੋ ਵਿਚੋਂ ਇਕ) ।	10 ਅੰਕ
2.	ਵਾਰਤਕ ਰੂਪ : ਰੇਖਾ ਚਿਤਰ, ਨਾਇਕ ਬਿੰਬ, ਕਲਾਤਮਕ ਗੁਣ, ਰੇਖਾ ਚਿਤਰ ਸਾਹਿਤ ਨੂੰ ਦੇਣ ।	10 ਅੰਕ
3–4.	3–4 ਨੰਬਰ ਉੱਤੇ ਦਿੱਤੀ ਵਿਆਕਰਣ ਦੇ ਆਧਾਰ ਤੇ ਵਰਣਨਾਤਮਕ ਪ੍ਰਸ਼ਨ।	10 ਅੰਕ
5.	ਪੈਰ੍ਹਾ ਰਚਨਾ : ਤਿੰਨ ਵਿਸ਼ਿਆਂ ਵਿਚੋਂ ਕਿਸੇ ਇਕ ਉਤੇ ਪੈਰ੍ਹਾ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇ ।	5 ਅੰਕ
6.	ਪੈਰ੍ਹਾ ਦੇ ਕੇ ਉਸ ਬਾਰੇ ਪੰਜ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ।	5 ਅੰਕ
7.	ਨੰਬਰ 7 ਵਿਚ ਅੱਠ ਅਖਾਣ ਅਤੇ ਅੱਠ ਮੁਹਾਵਰੇ ਪੁੱਛੇ ਜਾਣਗੇ, ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਪੰਜ–ਪੰਜ ਨੂੰ ਵਾਕਾਂ ਵਿਚ ਵਰਤ ਕੇ ਅਰਥ ਸਪੱਸ਼ਟ ਕਰਨੇ ਹੋਣਗੇ ।	5+5=10 ਅੰਕ

ਸਮੈਸਟਰ ਪਹਿਲਾ

ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)
ਪਰਚਾ – ਏ

ਸਮਾਂ: 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 50**

ਪਾਠ–ਕ੍ਰਮ ਅਤੇ ਪਾਠ–ਪੁਸਤਕਾਂ

1. **ਸੁਖਨ ਦੇ ਸੂਰਜ** (ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ ਸੰਗ੍ਰਹਿ : 1901–1995)
   (ਸੰਪਾ. ਡਾ. ਬਲਜੀਤ ਕੌਰ ਅਤੇ ਟੀ.ਡੀ.ਜੋਸ਼ੀ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
   ਕਵੀ: ਭਾਈ ਵੀਰ ਸਿੰਘ, ਪ੍ਰੋ. ਪੂਰਨ ਸਿੰਘ, ਮੋਹਨ ਸਿੰਘ, ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ, ਬਾਵਾ ਬਲਵੰਤ,
   ਹਰਿਭਜਨ ਸਿੰਘ। ਅੰਕ 20
2. **ਪਵਿੱਤਰ ਪਾਪੀ** (ਨਾਨਕ ਸਿੰਘ), ਨਾਨਕ ਸਿੰਘ ਪੁਸਤਕਮਾਲਾ, ਅੰਮ੍ਰਿਤਸਰ। ਅੰਕ 15
3. **ਮੰਚ ਘਰ** (ਕੁਲਦੀਪ ਸਿੰਘ ਧੀਰ ਅਤੇ ਹਿਰਦੇਜੀਤ ਸਿੰਘ ਭੋਗਲ)
   ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
   ਇਕਾਂਗੀ : ਬੇਬੇ ਰਾਮ ਭਜਨੀ, ਦੂਜਾ ਵਿਆਹ, ਮਨ ਦੀਆਂ ਮਨ ਵਿਚ ਅੰਕ 10
4. ਉਪਰੋਕਤ ਪੰਜਾਬੀ ਨਾਵਲ ਅਤੇ ਇਕਾਂਗੀਆਂ ਵਿਚੋਂ ਪਾਠ ਆਧਾਰਿਤ ਸੰਖੇਪ ਉੱਤਰਾਂ
   ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਅੱਠ ਵਿਚੋਂ ਪੰਜ) ਅੰਕ 5

ਅੰਕ–ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ:

1. **ਸੁਖਨ ਦੇ ਸੂਰਜ** (ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ ਸੰਗ੍ਰਹਿ : 1901–1995)
   (ੳ) ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਚਾਰ ਵਿਚੋਂ ਦੋ) 5+5=10 ਅੰਕ
   (ਅ) ਕਿਸੇ ਇਕ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ, ਕਵੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਤੇ
   ਉਸਦਾ ਯੋਗਦਾਨ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ
   (ਏ) ਮਲਟੀਪਲ ਚੋਣ ਪ੍ਰਸ਼ਨ 5 ਅੰਕ
2. **ਪਵਿੱਤਰ ਪਾਪੀ**
   ਨਾਵਲ ਦਾ ਵਿਸ਼ੈ–ਵਸਤੂ/ਕਥਾਨਕ/ਪਾਤਰ (ਦੋ ਵਿਚੋਂ ਇਕ) 15 ਅੰਕ
3. **ਮੰਚ ਘਰ**
   ਕਿਸੇ ਇਕ ਇਕਾਂਗੀ ਦਾ ਵਿਸ਼ਾ–ਵਸਤੂ/ਕਲਾ/ਇਕਾਂਗੀ ਲੇਖਕ ਬਾਰੇ ਜਾਣਕਾਰੀ
   ਅਤੇ ਉਸਦਾ ਯੋਗਦਾਨ (ਦੋ ਵਿਚੋਂ ਇਕ) 10 ਅੰਕ
4. ਉਪਰੋਕਤ ਪੰਜਾਬੀ ਨਾਵਲ (**ਪਵਿੱਤਰ ਪਾਪੀ**) ਅਤੇ ਇਕਾਂਗੀਆਂ ਵਿਚੋਂ ਪਾਠ
   ਆਧਾਰਿਤ ਅੱਠ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ, ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ
   ਪੰਜ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਸੰਖੇਪ ਉੱਤਰ ਦੇਣਗੇ। 5 ਅੰਕ

ਸਮੈਸਟਰ ਪਹਿਲਾ

ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)
ਪਰਚਾ – ਬੀ

ਸਮਾਂ: 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 50**

ਪਾਠ–ਕ੍ਰਮ ਅਤੇ ਪਾਠ–ਪੁਸਤਕਾਂ

1. **ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ** (1901–1995)

   (ਡਾ. ਜਸਵਿੰਦਰ ਸਿੰਘ ਤੇ ਡਾ. ਮਾਨ ਸਿੰਘ ਢੀਂਡਸਾ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1998)

   ੳ. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਗਲਪ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ

   ਅ. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਨਾਟਕ ਅਤੇ ਇਕਾਂਗੀ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ

   ੲ. ਪੰਜਾਬੀ ਆਲੋਚਨਾ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ 20 ਅੰਕ

2. ੳ. ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ

   ਅ. ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ : ਔਚਿਤਯ, ਵਕ੍ਰੋਕਤੀ, ਸਾਧਾਰਨੀਕਰਨ, ਰਸ, ਅਲੰਕਾਰ 5 ਅੰਕ

3. ੳ. ਨਾਵਲ, ਕਹਾਣੀ, ਨਾਟਕ, ਇਕਾਂਗੀ 5 ਅੰਕ

   ਅ. ਨਿਬੰਧ, ਜੀਵਨੀ, ਸਵੈਜੀਵਨੀ, ਸਫ਼ਰਨਾਮਾ 5 ਅੰਕ

4. ਅਰਥ ਵਿਗਿਆਨ : ਬਹੁ–ਅਰਥਕ ਸ਼ਬਦ, ਸਮਾਨਾਰਥਕ ਤੇ ਵਿਰੋਧਾਰਥਕ ਸ਼ਬਦ 10 ਅੰਕ

ਅੰਕ–ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ:

1. **ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ** (1901–1995)

   (ੳ) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਗਲਪ, ਨਾਟਕ ਤੇ ਇਕਾਂਗੀ ਅਤੇ ਆਲੋਚਨਾ ਦੇ ਵਿਕਾਸ ਬਾਰੇ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।

   (ਵਿਅਕਤੀਗਤ ਸਾਹਿਤਕਾਰ/ਆਲੋਚਕ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਨਹੀਂ ਪੁੱਛਿਆ ਜਾਵੇਗਾ)

   (ਅ) 1. ੳ, ਅ ਤੇ ੲ ਭਾਗਾਂ ਵਿਚੋਂ ਦੋ–ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।

   ਇਨ੍ਹਾਂ ਵਿਚੋਂ ਪਰੀਖਿਆਰਥੀਆਂ ਨੇ ਕੋਈ ਦੋ ਭਾਗਾਂ ਵਿਚੋਂ ਇਕ–ਇਕ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨਾ ਹੋਵੇਗਾ। 10+10=20 ਅੰਕ

2. (ੳ) ਦਫ਼ਤਰੀ ਚਿੱਠੀ ਪੱਤਰ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ
   (ਅ) ਭਾਰਤੀ ਕਾਵਿ–ਸ਼ਾਸਤਰ ਨਾਲ ਸੰਬੰਧਿਤ ਪੰਜ ਮੂਲ ਸੰਕਲਪ (ਪੰਜ ਵਿਚੋਂ ਦੋ) 5 ਅੰਕ

3. (ੳ) ਪਰਿਭਾਸ਼ਾ ਤੇ ਲੱਛਣ ਉਦਾਹਰਣ ਸਹਿਤ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ
   (ਅ) ਪਰਿਭਾਸ਼ਾ, ਪ੍ਰਕਿਰਤੀ ਤੇ ਤੱਤ 5 ਅੰਕ

4. ਪੰਜ–ਪੰਜ ਅੰਕਾਂ ਦੇ ਦੋ ਵਿਸ਼ਲੇਸ਼ਣਾਤਮਕ ਪ੍ਰਸ਼ਨ 10 ਅੰਕ

ਸਮੈਸਟਰ ਦੂਜਾ

ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)
ਪਰਚਾ – ਏ

ਸਮਾਂ: 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 50**

ਪਾਠ–ਕ੍ਰਮ ਅਤੇ ਪਾਠ–ਪੁਸਤਕਾਂ

1. **ਸੁਖ਼ਨ ਦੇ ਸੂਰਜ** (ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ ਸੰਗ੍ਰਹਿ : 1901–1995)
(ਸੰਪਾ. ਡਾ. ਬਲਜੀਤ ਕੌਰ ਅਤੇ ਟੀ.ਡੀ.ਜੋਸ਼ੀ), ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
ਕਵੀ : ਸੋਹਣ ਸਿੰਘ ਮੀਸ਼ਾ, ਸ਼ਿਵ ਕੁਮਾਰ, ਜਸਵੰਤ ਸਿੰਘ ਨੇਕੀ, ਜਗਤਾਰ, ਪਾਸ਼, ਸੁਰਜੀਤ ਪਾਤਰ।
ਅੰਕ 20

2. **ਆਤਮ ਅਨਾਤਮ** (ਸੰਪਾ. ਸੁਹਿੰਦਰ ਬੀਰ, ਵਰਿਆਮ ਸਿੰਘ ਸੰਧੂ)
ਕਹਾਣੀਕਾਰ :ਗੁਰਮੁਖ ਸਿੰਘ ਮੁਸਾਫਿਰ, ਸੁਜਾਨ ਸਿੰਘ, ਕਰਤਾਰ ਸਿੰਘ ਦੁੱਗਲ,
ਸੰਤੋਖ ਸਿੰਘ ਧੀਰ, ਕੁਲਵੰਤ ਸਿੰਘ ਵਿਰਕ, ਮਹਿੰਦਰ ਸਿੰਘ ਸਰਨਾ। ਅੰਕ 15

3. **ਮੰਚ ਘਰ** (ਕੁਲਦੀਪ ਸਿੰਘ ਧੀਰ ਅਤੇ ਹਿਰਦੇਜੀਤ ਸਿੰਘ ਭੋਗਲ)
ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ ।
ਇਕਾਂਗੀ : ਅੱਖ ਅੱਗੇ ਕੱਖ, ਬ੍ਰਹਮ ਭੋਜ, ਕੁੱਤਾ ਤੇ ਮਨੁੱਖ । ਅੰਕ 10

4. ਉਪਰੋਕਤ ਕਹਾਣੀਆਂ ਅਤੇ ਇਕਾਂਗੀਆਂ ਵਿਚੋਂ ਪਾਠ ਆਧਾਰਿਤ ਸੰਖੇਪ ਉੱਤਰਾਂ
ਵਾਲੇ ਪ੍ਰਸ਼ਨ (ਅੱਠ ਵਿਚੋਂ ਪੰਜ) । ਅੰਕ 5

ਅੰਕ–ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ:

1. **ਸੁਖ਼ਨ ਦੇ ਸੂਰਜ** (ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ ਸੰਗ੍ਰਹਿ : 1901–1995)
   (ੳ) ਪ੍ਰਸੰਗ ਸਹਿਤ ਵਿਆਖਿਆ (ਚਾਰ ਵਿਚੋਂ ਦੋ) 5+5=10 ਅੰਕ
   (ਅ) ਕਿਸੇ ਇਕ ਕਵਿਤਾ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ, ਕਵੀ ਬਾਰੇ ਜਾਣਕਾਰੀ ਤੇ
   ਉਸਦਾ ਯੋਗਦਾਨ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ
   (ਏ) ਮਲਟੀਪਲ ਚੋਣ ਪ੍ਰਸ਼ਨ 5 ਅੰਕ

2. **ਆਤਮ ਅਨਾਤਮ**
   ਕਹਾਣੀ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ/ਸਾਰ, ਪਾਤਰ ਚਿਤਰਣ/ਕਲਾ ਪੱਖ 15 ਅੰਕ

3. **ਮੰਚ ਘਰ**
   ਕਿਸੇ ਇਕ ਇਕਾਂਗੀ ਦਾ ਵਿਸ਼ਾ ਵਸਤੂ/ਕਲਾ/ਇਕਾਂਗੀ ਲੇਖਕ ਬਾਰੇ ਜਾਣਕਾਰੀ
   ਅਤੇ ਉਸਦਾ ਯੋਗਦਾਨ (ਦੋ ਵਿਚੋਂ ਇਕ) 10 ਅੰਕ

4. ਉਪਰੋਕਤ ਕਹਾਣੀਆਂ ਅਤੇ ਇਕਾਂਗੀਆਂ ਵਿਚੋਂ ਪਾਠ ਆਧਾਰਿਤ ਅੱਠ ਪ੍ਰਸ਼ਨ
   ਪੁੱਛੇ ਜਾਣਗੇ, ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਪੰਜ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਸੰਖੇਪ ਉੱਤਰ ਦੇਣਗੇ। 5 ਅੰਕ

ਸਮੈਸਟਰ ਦੂਜਾ

ਪੰਜਾਬੀ (ਇਲੈਕਟਿਵ)
ਪਰਚਾ – ਬੀ

ਸਮਾਂ: 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 50**

ਪਾਠ–ਕ੍ਰਮ ਅਤੇ ਪਾਠ–ਪੁਸਤਕਾਂ

1. **ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ** (1901–1995)

   (ਡਾ. ਜਸਵਿੰਦਰ ਸਿੰਘ ਤੇ ਡਾ. ਮਾਨ ਸਿੰਘ ਢੀਂਡਸਾ), ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ, 1998.

   ੳ. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਸਾਹਿਤ : ਸਿਧਾਂਤਕ–ਇਤਿਹਾਸਕ ਪਰਿਪੇਖ

   ਅ. ਆਧੁਨਿਕ ਕਾਵਿ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ

   ੲ. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ : ਨਿਕਾਸ ਅਤੇ ਵਿਕਾਸ 20 ਅੰਕ

2. ੳ. ਘਰੇਲੂ ਚਿੱਠੀ ਪੱਤਰ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ

   ਅ. ਭਾਰਤੀ ਕਾਵਿ ਸ਼ਾਸਤਰ ਨਾਲ ਸੰਬੰਧਿਤ ਛੇ ਮੂਲ ਸੰਕਲਪ : ਅਭਿਧਾ, ਲਕਸ਼ਣਾ, ਵਿਅੰਜਨਾ, ਰੂਪਕ, ਉਪਮਾ, ਅਤਿਕਥਨੀ 5 ਅੰਕ

3. ੳ. ਨਜ਼ਮ, ਗੀਤ, ਗ਼ਜ਼ਲ, ਰੁਬਾਈ 5 ਅੰਕ

   ਅ. ਵਿਹਾਰਕ ਭਾਸ਼ਾ, ਵਿਗਿਆਨ ਭਾਸ਼ਾ, ਕਾਵਿ ਭਾਸ਼ਾ 5 ਅੰਕ

4. ਵਿਆਕਰਣ : ਵਿਸ਼ਰਾਮ ਚਿੰਨ੍ਹ, ਸ਼ਬਦ ਜੋੜ 10 ਅੰਕ

ਅੰਕ–ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ:

1. **ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਇਤਿਹਾਸ** (1901–1995)

   (ੳ) ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਸਾਹਿਤ ਦਾ ਆਰੰਭ : ਸਾਹਿਤਕ ਧਾਰਾਵਾਂ ਅਤੇ ਪ੍ਰਵਿਰਤੀਆਂ

   (ਅ) ਆਧੁਨਿਕ ਕਾਵਿ ਅਤੇ ਵਾਰਤਕ ਰੂਪਾਂ ਦੇ ਵਿਕਾਸ ਬਾਰੇ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
   (ਵਿਅਕਤੀਗਤ ਸਾਹਿਤਕਾਰ ਸੰਬੰਧੀ ਪ੍ਰਸ਼ਨ ਨਹੀਂ ਪੁੱਛਿਆ ਜਾਵੇਗਾ)

   (ੲ) 1. ੳ, ਅ ਤੇ ੲ ਭਾਗਾਂ ਵਿਚੋਂ ਦੋ–ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।
   ਇਨ੍ਹਾਂ ਵਿਚੋ ਪਰੀਖਿਆਰਥੀਆਂ ਨੇ ਕੋਈ ਦੋ ਭਾਗਾਂ ਵਿਚੋਂ ਇਕ–ਇਕ ਪ੍ਰਸ਼ਨ ਹੱਲ ਕਰਨਾ ਹੋਵੇਗਾ। 10+10=20 ਅੰਕ

2. (ੳ) ਘਰੇਲੂ ਚਿੱਠੀ ਪੱਤਰ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ
   (ਅ) ਭਾਰਤੀ ਕਾਵਿ–ਸ਼ਾਸਤਰ ਨਾਲ ਸੰਬੰਧਿਤ ਪੰਜ ਮੂਲ ਸੰਕਲਪ (ਛੇ ਵਿਚੋਂ ਦੋ) 5 ਅੰਕ

3. (ੳ) ਪਰਿਭਾਸ਼ਾ ਤੇ ਲੱਛਣ ਉਦਾਹਰਣ ਸਹਿਤ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ
   (ਅ) ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਪ੍ਰਕਿਰਤੀ (ਦੋ ਵਿਚੋਂ ਇਕ) 5 ਅੰਕ

4. ਵਿਆਕਰਣ : ਪੰਜ–ਪੰਜ ਅੰਕਾਂ ਦੇ ਵਿਸ਼ਲੇਸ਼ਣਾਤਮਕ ਪ੍ਰਸ਼ਨ 10 ਅੰਕ

ਸਮੈਸਟਰ ਪਹਿਲਾ

ਪ੍ਰਕਾਰਜੀ (ਫੰਕਸ਼ਨਲ) ਪੰਜਾਬੀ
ਪਰਚਾ – ਏ
(ਥਿਊਰੀ)

ਮੰਤਵ : 1. ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੇ ਉਚਾਰਨ ਅਤੇ ਲਿਖਤ ਨਾਲ ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ

2. ਉਚਾਰਨ ਅਤੇ ਲਿਖਣ ਦਾ ਅਭਿਆਸ

ਸਮਾਂ: 2 ਘੰਟੇ ਕੁਲ ਅੰਕ: 25

ਪਾਠ–ਕ੍ਰਮ

1.	ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਸੰਰਚਨਾ (ਵਾਕ, ਸ਼ਬਦ)	5 ਅੰਕ
2.	ਉਚਾਰਨ ਅੰਗਾਂ ਦੀ ਬਣਤਰ ਅਤੇ ਕਾਰਜ, ਧੁਨੀਆਂ ਦਾ ਵਰਗੀਕਰਨ – ਸੁਰ, ਵਿਅੰਜਨ, ਅਖੰਡ ਧੁਨੀਆਂ, ਉਚਾਰ ਖੰਡ।	5 ਅੰਕ
3.	ਪੰਜਾਬੀ ਸੁਰ, ਵਿਅੰਜਨਾਂ ਤੇ ਸੁਰਾਂ ਦੇ ਉਚਾਰਨ ਤੇ ਵਰਤੋਂ ਦੇ ਨੇਮ	5 ਅੰਕ
4.	ਗੁਰਮੁਖੀ ਔਰਥੋਗਰਾਫ਼ੀ ਦੇ ਤੱਤ ਅਤੇ ਨਿਯਮ	5 ਅੰਕ
5.	ਕੰਪਿਊਟਰ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਮੁਖ ਕਾਰਜ	5 ਅੰਕ

(ਪ੍ਰੈਕਟੀਕਲ)

ਸਮਾਂ: 1 ਘੰਟਾ ਕੁਲ ਅੰਕ: 25

ਪਾਠ–ਕ੍ਰਮ

1. ਲਿਖਤ ਨੂੰ ਉਚੀ ਆਵਾਜ਼ ਵਿਚ ਪੜ੍ਹਨ ਦਾ ਅਭਿਆਸ
2. ਜ਼ੁਬਾਨੀ ਬੋਲਣ ਦਾ ਅਭਿਆਸ
(ਪ੍ਰੈਕਟੀਕਲ ਵਿਚ ਵਿਦਿਆਰਥੀ ਦੀ ਪੰਜਾਬੀ ਉਚਾਰਨ ਦੀ ਸਮਰੱਥਾ ਦੀ ਮੌਖਿਕ ਪਰੀਖਿਆ ਲਈ ਜਾਵੇਗੀ।)

ਸਮੈਸਟਰ ਪਹਿਲਾ

ਪ੍ਰਕਾਰਜੀ (ਫੰਕਸ਼ਨਲ) ਪੰਜਾਬੀ

ਪਰਚਾ – ਬੀ

(ਥਿਊਰੀ)

ਸਮਾਂ: 2 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 25**

ਪਾਠ–ਕ੍ਰਮ

1.	ਸੰਚਾਰ, ਜਨਛਸੰਚਾਰ ਅਤੇ ਪ੍ਰਸਾਰਨ	5 ਅੰਕ
2.	ਪ੍ਰਸਾਰਨ ਦੇ ਮੁੱਢਲੇ ਨਿਯਮ	5 ਅੰਕ
3.	ਸੰਚਾਰ ਦੀ ਪਰਿਭਾਸ਼ਾ ਅਤੇ ਪ੍ਰਕਾਰਜ	5 ਅੰਕ
4.	ਸੰਚਾਰ ਦਾ ਮਾਧਿਅਮ ਰੇਡੀਓ ਅਤੇ ਪੰਜਾਬੀ	5 ਅੰਕ
5.	ਸੰਚਾਰ ਦਾ ਮਾਧਿਅਮ ਟੀ.ਵੀ. ਅਤੇ ਪੰਜਾਬੀ	5 ਅੰਕ

(ਪ੍ਰੈਕਟੀਕਲ)

ਸਮਾਂ: 1 ਘੰਟਾ **ਕੁਲ ਅੰਕ: 25**

ਪਾਠ–ਕ੍ਰਮ

1. ਖੇਤਰੀ ਕਾਰਜ :
   ਓ. ਰੇਡੀਓ ਅਤੇ ਟੀ.ਵੀ. ਸਟੇਸ਼ਨ ਤੇ ਜਾ ਕੇ ਵਿਹਾਰਕ ਜਾਣਕਾਰੀ ਪ੍ਰਾਪਤ ਕਰਨੀ ਅਤੇ ਆਵਾਜ਼ ਦੀ ਸਿਖਲਾਈ।
   ਅ. ਭਾਸ਼ਾ ਦੇ ਖੇਤਰੀ ਵਖਰੇਵੇਂ ਦੀ ਸਿਖਲਾਈ।

ਸਮੈਸਟਰ ਦੂਜਾ

ਪ੍ਰਕਾਰਜੀ (ਫੰਕਸ਼ਨਲ) ਪੰਜਾਬੀ

ਪਰਚਾ – ਏ

(ਥਿਊਰੀ)

ਸਮਾਂ: 2 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 25**

ਪਾਠ–ਕ੍ਰਮ

1.	ਪੰਜਾਬੀ ਉਚਾਰਨ ਅਤੇ ਗੁਰਮੁਖੀ ਲਿਪੀ	5 ਅੰਕ
2.	ਅੰਤਰਛਰਾਸ਼ਟਰੀ ਧੁਨੀ ਲਿਪੀ : ਮੁੱਢਲੀ ਜਾਣ ਪਛਾਣ	5 ਅੰਕ
3.	ਅੰਤਰਛਰਾਸ਼ਟਰੀ ਧੁਨੀ ਲਿਪੀ ਦੀ ਵਰਤੋਂ	5 ਅੰਕ
4.	ਪੰਜਾਬੀ ਉਚਾਰਨ ਨੂੰ ਅੰਤਰਛਰਾਸ਼ਟਰੀ ਧੁਨੀ ਲਿਪੀ ਅਤੇ ਗੁਰਮੁਖੀ ਵਿਚ ਲਿਖਣ ਲਈ 10–10 ਸਤਰਾਂ ਦੇ ਪੰਜ ਅਭਿਆਸ	5 ਅੰਕ
5.	ਸੂਚਨਾ ਤਕਨਾਲੋਜੀ : ਇੰਟਰਨੈਟ, ਈ–ਮੇਲ	5 ਅੰਕ

(ਪ੍ਰੈਕਟੀਕਲ)

ਸਮਾਂ: 1 ਘੰਟਾ **ਕੁਲ ਅੰਕ : 25**

ਪਾਠ–ਕ੍ਰਮ

1. ਯਾਦ ਕਰਕੇ ਜ਼ੁਬਾਨੀ ਬੋਲਣ ਦਾ ਅਭਿਆਸ
2. ਬਿਨਾਂ ਤਿਆਰੀ ਤੋਂ ਕਿਸੇ ਘਟਨਾ, ਖ਼ਬਰ, ਸਥਿਤੀ, ਦ੍ਰਿਸ਼ ਜਾਂ ਵਿਅਕਤੀ ਬਾਰੇ ਮੌਖਿਕ ਪੱਧਰ ਉੱਤੇ ਵਰਣਨ।
3. ਰਿਸ਼ਤਾ–ਨਾਤਾ ਪ੍ਰਣਾਲੀ ਨਾਲ ਸੰਬੰਧਿਤ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ ਦੀ ਜਾਣਕਾਰੀ।

ਸਮੈਸਟਰ ਦੂਜਾ

ਪ੍ਰਕਾਰਜੀ (ਫੰਕਸ਼ਨਲ) ਪੰਜਾਬੀ
ਪਰਚਾ – ਬੀ

(ਥਿਊਰੀ)

ਸਮਾਂ: 2 ਘੰਟੇ **ਕੁਲ ਅੰਕ: 25**

ਪਾਠ–ਕ੍ਰਮ

1.	ਭਾਰਤ ਵਿਚ ਟੀ.ਵੀ. ਨੈਟਵਰਕ	5 ਅੰਕ
2.	ਪ੍ਰਸਾਰਨ, ਸੰਚਾਰ ਅਤੇ ਸਮਾਜ	5 ਅੰਕ
3.	ਵਿਗਿਆਪਨ ਦੀ ਪਰਿਭਾਸ਼ਾ, ਉਦੇਸ਼ ਅਤੇ ਲਾਭ	5 ਅੰਕ
4.	ਸਮਾਚਾਰ : ਪਰਿਭਾਸ਼ਾ, ਤੱਤ ਅਤੇ ਵਿਧੀਆਂ	5 ਅੰਕ
5.	ਸਮਾਚਾਰ ਅਤੇ ਵਿਗਿਆਪਨ ਦੇ ਨਮੂਨੇ	5 ਅੰਕ

(ਪ੍ਰੈਕਟੀਕਲ)

ਸਮਾਂ: 1 ਘੰਟਾ **ਕੁਲ ਅੰਕ: 25**

ਪਾਠ–ਕ੍ਰਮ

1. ਵਿਹਾਰਕ ਜੀਵਨ ਵਿਚ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਵਰਤੋਂ
   (ਬੈਂਕ, ਡਾਕਖਾਨੇ, ਰੇਲਵੇ ਸਟੇਸ਼ਨ, ਬੱਸ ਅੱਡਾ, ਹਵਾਈ ਅੱਡੇ ਤੇ ਪੁੱਛ ਗਿੱਛ ਕਰਨ, ਸੀਟ ਬੁੱਕ ਕਰਵਾਉਣੀ, ਹੋਟਲ, ਰੈਸਟੋਰੈਂਟ ਵਿਚ ਖਾਣੇ ਲਈ ਆਦੇਸ਼ ਕਰਨਾ, ਕਮਰਾ ਬੁੱਕ ਕਰਵਾਉਣਾ।
2. ਸਮਾਜਕ ਸਭਿਆਚਾਰਕ ਸੰਦਰਭਾਂ ਵਿਚ ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਦੀ ਵਰਤੋਂ
   (ਸ਼ੁੱਭ ਸੰਦੇਸ਼, ਸ਼ੋਕ ਸੰਦੇਸ਼, ਵਿਆਹ ਸਮਾਗਮਾਂ ਤੇ ਪ੍ਰਾਹੁਣਿਆਂ ਨੂੰ ਜੀ ਆਇਆਂ ਕਹਿਣਾ ਅਤੇ ਵਿਦਾ ਕਰਨਾ ਆਦਿ।)
3. ਵਿਭਿੰਨ ਸਥਿਤੀਆਂ ਵਿਚ ਵਾਰਤਾਲਾਪ।
4. ਜ਼ੁਬਾਨੀ ਬੋਲਣ ਦਾ ਅਭਿਆਸ
   (ਪ੍ਰੈਕਟੀਕਲ ਵਿਚ ਵਿਦਿਆਰਥੀ ਦੀ ਪੰਜਾਬੀ ਉਚਾਰਨ ਦੀ ਸਮਰੱਥਾ ਦੀ ਮੌਖਿਕ ਪਰੀਖਿਆ ਲਈ ਜਾਵੇਗੀ।)

ਸਮੈਸਟਰ ਪਹਿਲਾ

ਮੁੱਢਲੀ ਪੰਜਾਬੀ

(In the lieu of Compulsory Punjabi)

ਪਾਠ-ਕ੍ਰਮ

ਸਮਾਂ: ਤਿੰਨ ਘੰਟੇ **ਕੁਲ ਅੰਕ: 50**

1. ਪੰਜਾਬੀ ਭਾਸ਼ਾ,
   ਗੁਰਮੁਖੀ ਲਿਪੀ
   ਗੁਰਮੁਖੀ ਲਿਪੀ : ਬਣਤਰ ਅਤੇ ਤਰਤੀਬ **20 ਅੰਕ**

2. ਗੁਰਮੁਖੀ ਆਰਥੋਗ੍ਰਾਫੀ
   ਸੁਰ ਬਣਤਰ ਅਤੇ ਉਚਾਰਨ
   ਵਿਅੰਜਨ ਬਣਤਰ ਅਤੇ ਉਚਾਰਨ **15 ਅੰਕ**

3. ਪੰਜਾਬੀ ਸ਼ਬਦ-ਬਣਤਰ
   ਸਾਧਾਰਨ ਸ਼ਬਦ
   ਇਕ ਉਚਾਰਖੰਡੀ ਸ਼ਬਦ **15 ਅੰਕ**

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਨਾਮਕਰਣ ਅਤੇ ਸੰਖੇਪ ਜਾਣ ਪਛਾਣ, ਗੁਰਮੁਖੀ ਲਿਪੀ : ਨਾਮਕਰਣ, ਗੁਰਮੁਖੀ ਵਰਣਮਾਲਾ; ਪੈਂਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਸੁਰ ਵਾਹਕ (ੳ ਅ ੲ), ਲਗਾਂ ਮਾਤਰਾਂ, ਪੈਰ ਵਿਚ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ, ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ, ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ।
2. ਗੁਰਮੁਖੀ ਆਰਥੋਗ੍ਰਾਫੀ ਅਤੇ ਉਚਾਰਨ; ਸੁਰਾਂ ਦੀ ਬਣਤਰ ਅਤੇ ਉਚਾਰਨ (ਲਘੂ-ਦੀਰਘ ਸੁਰ); ਸੁਰ ਅਤੇ ਲਗਾਂ ਮਾਤਰਾਂ; ਵਿਅੰਜਨਾਂ ਦੀ ਬਣਤਰ ਅਤੇ ਉਚਾਰਨ; ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣਾਂ (ਹ, ਰ, ਵ) ਦਾ ਉਚਾਰਨ ; ਲ ਅਤੇ ਲ਼ ਦਾ ਉਚਾਰਨ; ਭ, ਧ, ਢ, ਝ, ਘ ਦਾ ਉਚਾਰਨ; ਪੈਰ ਵਿਚ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣਾਂ ਦਾ ਉਚਾਰਨ।
3. ਪੰਜਾਬੀ ਸ਼ਬਦ-ਬਣਤਰ : ਸਾਧਾਰਨ ਸ਼ਬਦ; ਇਕੱਲਾ ਸੁਰ (ਜਿਵੇਂ ਆ); ਸੁਰ ਅਤੇ ਵਿਅੰਜਨ (ਜਿਵੇਂ ਆਰ); ਵਿਅੰਜਨ ਅਤੇ ਸੁਰ (ਜਿਵੇਂ ਪਾ); ਵਿਅੰਜਨ ਸੁਰ ਵਿਅੰਜਨ (ਜਿਵੇਂ ਪਾਰ); ਕੋਸ਼ਗਤ ਸ਼ਬਦ (ਜਿਵੇਂ ਘਰ, ਪੀ); ਵਿਆਕਰਣਕ ਸ਼ਬਦ (ਜਿਵੇਂ ਨੂੰ, ਨੇ); ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ-1; ਲਿੰਗ-ਪੁਲਿੰਗ, ਇਕ ਵਚਨ-ਬਹੁ ਵਚਨ; ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ-1: ਖਾਣ-ਪੀਣ, ਸਾਕਾਦਾਰੀ, ਰੁੱਤਾਂ, ਮਹੀਨਿਆਂ, ਗਿਣਤੀ, ਮੌਸਮ ਆਦਿ ਨਾਲ ਸੰਬੰਧਿਤ।

ਅੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ :

1. ਯੂਨਿਟ ਪਹਿਲਾ ਵਿੱਚੋਂ ਦੋ ਵਰਣਨਾਤਮਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਇਕ ਦਾ ਉੱਤਰ ਦੇਣਾ ਹੋਵੇਗਾ। **(15 ਅੰਕ)**

2. ਯੂਨਿਟ ਦੂਜਾ ਅਤੇ ਤੀਜਾ ਵਿਚੋਂ ਚਾਰ ਪ੍ਰਸ਼ਨ (ਹਰ ਇਕ ਭਾਗ ਵਿਚੋਂ ਦੋ-ਦੋ ਪ੍ਰਸ਼ਨ) ਪੁੱਛੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿੱਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਦੋ ਪ੍ਰਸ਼ਨਾਂ ਦਾ (ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ), ਉੱਤਰ ਦੇਣਾ ਹੋਵੇਗਾ। **(10X2=20 ਅੰਕ)**

3. ਯੂਨਿਟ ਪਹਿਲਾ, ਦੂਜਾ ਅਤੇ ਤੀਜਾ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰ ਵਾਲੇ ਛੇ ਪ੍ਰਸ਼ਨ (ਹਰ ਇਕ ਭਾਗ ਵਿਚੋਂ ਦੋ-ਦੋ ਪ੍ਰਸ਼ਨ) ਪੁੱਛੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਤਿੰਨ ਪ੍ਰਸ਼ਨਾਂ (ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ) ਦਾ ਉੱਤਰ ਦੇਣਾ ਹੋਵੇਗਾ। **(05X3=15 ਅੰਕ)**

ਸਮੈਸਟਰ ਦੂਜਾ
ਮੁੱਢਲੀ ਪੰਜਾਬੀ
(In the lieu of Compulsory Punjabi)

ਪਾਠ-ਕ੍ਰਮ

ਸਮਾਂ: ਤਿੰਨ ਘੰਟੇ **ਕੁਲ ਅੰਕ: 50**

1.	ਪੰਜਾਬੀ ਸ਼ਬਦ-ਬਣਤਰ, ਸੰਯੁਕਤ ਅਤੇ ਮਿਸ਼ਰਤ ਸ਼ਬਦ ਬਹੁਉਚਾਰਖੰਡੀ ਸ਼ਬਦ	20 ਅੰਕ
2.	ਪੰਜਾਬੀ ਵਾਕ ਬਣਤਰ ਸਾਧਾਰਨ ਵਾਕ : ਕਿਸਮਾਂ ਸੰਯੁਕਤ ਵਾਕ : ਕਿਸਮਾਂ ਮਿਸ਼ਰਤ ਵਾਕ : ਕਿਸਮਾਂ	15 ਅੰਕ
3.	ਪ੍ਰਕਾਰਜੀ ਪੰਜਾਬੀ ਚਿੱਠੀ ਪੱਤਰ ਪੈਰਾ ਰਚਨਾ ਸੰਖੇਪ ਰਚਨਾ ਅਖਾਣ ਅਤੇ ਮੁਹਾਵਰੇ	15 ਅੰਕ

ਯੂਨਿਟ ਅਤੇ ਥੀਮ

1. ਪੰਜਾਬੀ ਸ਼ਬਦ ਬਣਤਰ : ਸੰਯੁਕਤ ਸ਼ਬਦ; ਸਮਾਸੀ ਸ਼ਬਦ (ਜਿਵੇਂ ਲੋਕ ਸਭਾ); ਦੋਜਾਤੀ ਸ਼ਬਦ (ਜਿਵੇਂ ਕਾਲਾ ਸਿਆਹ); ਦੋਹਰੇ ਸ਼ਬਦ/ਦੁਹਰਰੁਕਤੀ (ਜਿਵੇਂ ਧੂੜ ਧਾੜ/ਭੁਰ ਭਰ), ਮਿਸ਼ਰਤ ਸ਼ਬਦਾਂ ਦੀ ਬਣਤਰ/ਸਿਰਜਨਾ; ਅਗੇਤਰਾਂ ਰਾਹੀਂ (ਜਿਵੇਂ ਉਪ ਭਾਸ਼ਾ), ਪਿਛੇਤਰਾਂ ਰਾਹੀਂ (ਜਿਵੇਂ ਰੰਗਲਾ), ਪੰਜਾਬੀ ਸ਼ਬਦ ਰਚਨਾ-2: ਪੜਨਾਵੀਂ ਰੂਪ, ਕਿਰਿਆ/ਸਹਾਇਕ ਕਿਰਿਆ ਦੇ ਰੂਪ; ਨਿੱਤ ਵਰਤੋਂ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ-2: ਮਾਰਕੀਟ/ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਧੰਦਿਆਂ ਨਾਲ ਸੰਬੰਧਿਤ।
2. ਪੰਜਾਬੀ ਵਾਕ ਬਣਤਰ : ਕਰਤਾ ਕਰਮ ਕਿਰਿਆ; ਸਾਧਾਰਨ ਵਾਕ, ਬਿਆਨੀਆ, ਪ੍ਰਸ਼ਨਵਾਚਕ, ਆਗਿਆਵਾਚਕ, ਸੰਯੁਕਤ ਅਤੇ ਮਿਸ਼ਰਤ ਵਾਕਾਂ ਦੀਆਂ ਕਿਸਮਾਂ; ਸੁਤੰਤਰ ਅਤੇ ਅਧੀਨ ਉਪਵਾਕ; ਸਮਾਨ (ਤੇ/ਅਤੇ) ਅਤੇ ਅਧੀਨ (ਜੋ/ਕਿ) ਯੋਜਕਾਂ ਦੀ ਵਰਤੋਂ; ਪੰਜਾਬੀ ਵਾਕਾਂ ਦੀ ਵਰਤੋਂ : ਵਿਭਿੰਨ ਸਮਾਜਕ/ਸਭਿਆਚਾਰਕ ਪ੍ਰਸਥਿਤੀਆਂ ਦੇ ਅੰਤਰਗਤ; ਘਰ ਵਿਚ, ਬਾਜ਼ਾਰ ਵਿਚ, ਮੇਲੇ ਵਿਚ, ਸ਼ੌਪਿੰਗ ਮਾਲ/ਸਿਨਮੇ ਵਿਚ, ਵਿਆਹ ਵਿਚ, ਧਾਰਮਿਕ ਸਥਾਨਾਂ ਵਿਚ, ਦੋਸਤਾਂ ਨਾਲ ਆਦਿ।
3. ਇਸ ਯੂਨਿਟ ਵਿਚ ਚਿੱਠੀ ਪੱਤਰ (ਨਿੱਜੀ/ਦਫ਼ਤਰੀ/ਵਪਾਰਕ), ਪੈਰਾ ਰਚਨਾਂ, ਸੰਖੇਪ ਰਚਨਾ ਅਤੇ ਅਖਾਣ ਮੁਹਾਵਰਿਆਂ ਦੀ ਵਰਤੋਂ ਰਾਹੀਂ ਵਿਦਿਆਰਥੀ ਦੀ ਭਾਸ਼ਾਈ ਯੋਗਤਾ ਨੂੰ ਪਰਖਿਆ ਜਾਵੇਗਾ।

ਟੰਕ-ਵੰਡ ਅਤੇ ਪਰੀਖਿਅਕ ਲਈ ਹਦਾਇਤਾਂ :

1. ਯੂਨਿਟ ਪਹਿਲਾ ਵਿੱਚੋਂ ਦੋ ਵਰਣਨਾਤਮਕ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਇਕ ਦਾ ਉੱਤਰ ਦੇਣਾ ਹੋਵੇਗਾ। (15 ਅੰਕ)
2. ਯੂਨਿਟ ਦੂਜਾ ਵਿਚੋਂ ਦੋ ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਇਕ ਦਾ ਉੱਤਰ ਦੇਣਾ ਹੋਵੇਗਾ। (10 ਅੰਕ)
3. ਯੂਨਿਟ ਪਹਿਲਾ ਅਤੇ ਦੂਜਾ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰ ਵਾਲੇ ਚਾਰ ਪ੍ਰਸ਼ਨ (ਹਰ ਇਕ ਭਾਗ ਵਿਚੋਂ ਦੋ-ਦੋ ਪ੍ਰਸ਼ਨ) ਪੁੱਛੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੇ ਦੋ ਪ੍ਰਸ਼ਨਾਂ (ਹਰ ਭਾਗ ਵਿਚੋਂ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ) ਦਾ ਉੱਤਰ ਦੇਣਾ ਹੋਵੇਗਾ। (5x2=10 ਅੰਕ)
4. ਨਿੱਜੀ, ਦਫ਼ਤਰੀ ਅਤੇ ਵਪਾਰਕ ਚਿੱਠੀ : ਵਿਦਿਆਰਥੀ ਨੂੰ ਦੋ ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਵਿਸ਼ੇ ਤੇ ਚਿੱਠੀ ਲਿਖਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। (5 ਅੰਕ)
5. ਵਿਦਿਆਰਥੀ ਨੂੰ ਤਿੰਨ ਵਿਸ਼ਿਆਂ ਵਿੱਚੋਂ ਕਿਸੇ ਇਕ ਤੇ ਪੈਰਾ ਲਿਖਣ ਲਈ ਜਾਂ ਕੋਈ ਪੈਰਾ ਦੇ ਕੇ ਉਸ ਬਾਰੇ ਪੰਜ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ ਦੇਣ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। (5 ਅੰਕ)
6. ਅੱਠ ਅਖਾਣ/ਮੁਹਾਵਰੇ ਪੁੱਛੇ ਜਾਣਗੇ ਜਿਨ੍ਹਾਂ ਵਿਚੋਂ ਵਿਦਿਆਰਥੀ ਨੂੰ ਕਿਸੇ ਪੰਜਾਂ ਨੂੰ ਵਾਕਾਂ ਵਿਚ ਵਰਤ ਕੇ ਅਰਥ ਸਪਸ਼ਟ ਕਰਨ ਲਈ ਕਿਹਾ ਜਾਵੇਗਾ। (5 ਅੰਕ)

ਪਹਿਲਾ ਸਮੈਸਟਰ
ਧਰਮ ਅਧਿਐਨ

ਧਰਮ, ਆਦਿ ਧਰਮ ਅਤੇ ਧਰਮ ਸੰਬੰਧੀ ਆਧੁਨਿਕ ਮੁੱਦੇ

ਸਮਾਂ 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ:100**
ਲੈਕਚਰਾਂ ਦੀ ਗਿਣਤੀ:75
ਪਾਸ ਹੋਣ ਲਈ ਅੰਕ:35

ਪੇਪਰ ਸੈਟਰ ਲਈ ਹਦਾਇਤਾਂ:

ਪੇਪਰ ਦੇ ਪੰਜ ਭਾਗ ਹੋਣਗੇ:ਉ,ਅ,ਏ,ਸ, ਅਤੇ ਹ; ਭਾਗ ਉ,ਅ,ਏ,ਸ ਵਿਚੋਂ 2-2 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੋਵੇਗਾ ਅਤੇ ਹਰ ਇਕ ਪ੍ਰਸ਼ਨ ਦੇ 15 ਅੰਕ ਹੋਣਗੇ। ਭਾਗ ਹ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ 10 ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹੋਣਗੇ, ਜਿਹੜੇ ਸਾਰੇ ਸਿਲੇਬਸ ਵਿਚੋਂ ਹੋਣਗੇ ਅਤੇ ਉਨ੍ਹਾਂ ਦੇ 40 ਅੰਕ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 4-4 ਅੰਕ ਹੋਣਗੇ।

ਪ੍ਰੀਖਿਆਰਥੀ ਲਈ ਹਦਾਇਤਾਂ:

ਭਾਗ ਉ,ਅ,ਏ,ਸ ਵਿਚੋਂ ਕੇਵਲ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੈ ਅਤੇ ਭਾਗ ਹ ਦੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਜ਼ਰੂਰੀ ਹਨ।

ਭਾਗ (ਉ): ਧਰਮ ਦੀ ਆਮ ਜਾਣਕਾਰੀ

1. ਧਰਮ:ਪਰਿਭਾਸ਼ਾ ਤੇ ਸਰੂਪ
2. ਧਰਮ ਤੇ ਦਰਸ਼ਨ:ਸਮਾਨਤਾ ਅਤੇ ਅੰਤਰ
3. ਧਰਮ ਤੇ ਨੈਤਿਕਤਾ:ਸਮਾਨਤਾ ਅਤੇ ਅੰਤਰ
4. ਧਰਮ ਅਧਿਐਨ ਦਾ ਆਰੰਭ ਅਤੇ ਉਦੇਸ਼

ਭਾਗ (ਅ): ਆਦਿ ਧਰਮ

1. ਪ੍ਰਾਚੀਨ ਮਨੁੱਖ ਅਤੇ ਉਸਦਾ ਧਰਮ:ਕੁਦਰਤ ਦੀ ਕਰੋਪੀ ਤੇ ਧਰਮ ਦਾ ਆਰੰਭ
2. ਮੁਢਲੇ ਧਾਰਮਿਕ ਵਿਸ਼ਵਾਸ:ਐਨੀਮਿਜ਼ਮ, ਮਾਨਾ, ਟੋਟਮ,ਫਿਟਿਸ਼
3. ਧਾਰਮਿਕ ਪ੍ਰਗਟਾਵੇ:ਜਾਦੂ,ਟੈਬੂ, ਮਿਥ
4. ਸਿੰਧੂ ਘਾਟੀ ਸਭਿਅਤਾ ਦੇ ਧਾਰਮਿਕ ਵਿਸ਼ਵਾਸ

ਭਾਗ (ਏ): ਧਾਰਮਿਕ ਸੰਸਕਾਰ

1. ਧਾਰਮਿਕ ਸੰਸਕਾਰ:ਅਰਥ ਅਤੇ ਸਰੂਪ
2. ਜਨਮ, ਧਰਮ-ਪ੍ਰਵੇਸ਼, ਵਿਆਹ ਅਤੇ ਮ੍ਰਿਤਕ ਸੰਸਕਾਰ
3. ਤੀਰਥ ਯਾਤਰਾਵਾਂ ਦਾ ਸਾਮਾਜਿਕ-ਧਾਰਮਿਕ ਮਹੱਤਵ
4. ਧਾਰਮਿਕ ਤਿਉਹਾਰਾਂ ਦਾ ਸਮਾਜਿਕ-ਧਾਰਮਿਕ ਮਹੱਤਵ

ਭਾਗ (ਸ): ਧਰਮ ਸੰਬੰਧੀ ਆਧੁਨਿਕ ਮੁੱਦੇ

1. ਧਰਮ ਅਤੇ ਸਮਾਜ ਦਾ ਸੰਬੰਧ
2. ਮਾਨਵਵਾਦ
3. ਵਿਸ਼ਵ-ਸ਼ਾਂਤੀ ਅਤੇ ਸਹਿਹੋਂਦ
4. ਅੰਤਰ-ਧਰਮ ਸਬੰਧ

ਸੁਝਾਈਆਂ ਪੁਸਤਕਾਂ ਦੀ ਸੂਚੀ

1. ਸ਼ਾਂਤੀ ਨਾਥ ਗੁਪਤਾ, *ਭਾਰਤੀ ਦਰਸ਼ਨ* (ਪੰਜਾਬੀ), ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ, 1974।
2. ਹਰਪਾਲ ਸਿੰਘ ਪੰਨੂ, *ਪ੍ਰਾਚੀਨ ਭਾਰਤੀ ਧਰਮ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
3. ਦਲਜੀਤ ਸਿੰਘ, *ਭਾਗਵਦ ਗੀਤਾ* (ਪੰਜਾਬੀ ਅਨੁਵਾਦ)।
4. ਬੀ. ਐਸ.ਰਾਇ ਭੱਲਾ, *ਆਧੁਨਿਕ ਭਾਰਤੀ ਦਰਸ਼ਨ ਦੀਆਂ ਕੁਝ ਮੁੱਖ ਪ੍ਰਵਿਰਤੀਆਂ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
5. Harbans Singh & L.M.Joshi, *An Introduction to Indian Religions*, Punjabi University, Patiala.
6. ਆਰ.ਡੀ.ਨਿਰਾਕਾਰੀ, *वैदिक शास्तरों का समाजिक परिचय* (ਹਿੰਦੀ), ਵੇਦਾਂਤ ਪ੍ਰਕਾਸ਼ਨ, ਪਟਿਆਲਾ।
7. बसन्त कुमार लाल, *समकालीन भारतीय दर्शन* , मोतीलाल बनारसी दास, दिल्ल्ली, २००६।
8. आर.डी. निराकारी, वैदिक शास्त्रों का सामाजिक परिचय, वेदांत प्रकाशन, पटिआला।

ਦੂਜਾ ਸਮੈਸਟਰ
ਧਰਮ ਅਧਿਐਨ

ਪ੍ਰਮੁੱਖ ਭਾਰਤੀ ਧਰਮ

ਸਮਾਂ 3 ਘੰਟੇ **ਕੁਲ ਅੰਕ:100**
ਲੈਕਚਰਾਂ ਦੀ ਗਿਣਤੀ:75
ਪਾਸ ਹੋਣ ਲਈ ਅੰਕ:35

ਪੇਪਰ ਸੈਟਰ ਲਈ ਹਦਾਇਤਾਂ:

ਪੇਪਰ ਦੇ ਪੰਜ ਭਾਗ ਹੋਣਗੇ:ਓ,ਅ,ਏ,ਸ, ਅਤੇ ਹ; ਭਾਗ ਓ,ਅ,ਏ,ਸ ਵਿਚੋਂ 2-2 ਪ੍ਰਸ਼ਨ ਪੁੱਛੇ ਜਾਣਗੇ।ਵਿਦਿਆਰਥੀਆਂ ਨੇ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੋਵੇਗਾ ਅਤੇ ਹਰ ਇਕ ਪ੍ਰਸ਼ਨ ਦੇ 15 ਅੰਕ ਹੋਣਗੇ। ਭਾਗ ਹ ਵਿਚੋਂ ਸੰਖੇਪ ਉੱਤਰਾਂ ਵਾਲੇ 10 ਪ੍ਰਸ਼ਨ ਕਰਨੇ ਹੋਣਗੇ, ਜਿਹੜੇ ਸਾਰੇ ਸਿਲੇਬਸ ਵਿਚੋ ਹੋਣਗੇ ਅਤੇ ਉਨ੍ਹਾਂ ਦੇ 40 ਅੰਕ ਹੋਣਗੇ। ਹਰੇਕ ਪ੍ਰਸ਼ਨ ਦੇ 4-4 ਅੰਕ ਹੋਣਗੇ।

ਪ੍ਰੀਖਿਆਰਥੀ ਲਈ ਹਦਾਇਤਾਂ:

ਭਾਗ ਓ,ਅ,ਏ,ਸ ਵਿਚੋਂ ਕੇਵਲ ਇਕ-ਇਕ ਪ੍ਰਸ਼ਨ ਕਰਨਾ ਹੈ ਅਤੇ ਭਾਗ ਹ ਦੇ ਸਾਰੇ ਪ੍ਰਸ਼ਨ ਜ਼ਰੂਰੀ ਹਨ।

ਭਾਗ (ਓ): ਵੈਦਕ ਧਰਮ

1. ਆਰੀਅਨ ਦੀ ਜਾਣਕਾਰੀ
2. ਵੇਦ:ਜਾਣ-ਪਹਿਚਾਣ, ਵੈਦਿਕ ਯੁੱਗ ਦੀਆਂ ਮਾਨਤਾਵਾਂ(ਬਲੀ ਅਤੇ ਯੱਗ)
3. ਵੈਦਿਕ ਦੇਵਤੇ : ਬਹੁ-ਦੇਵਵਾਦ(Polytheism)
4. ਉਪਨਿਸ਼ਦ: ਜਾਣ ਪਹਿਚਾਣ ਅਤੇ ਪ੍ਰਮੁੱਖ ਸਿੱਧਾਂਤ

ਭਾਗ (ਅ): ਹਿੰਦੂ ਧਰਮ

1. ਪ੍ਰਮੁੱਖ ਫ਼ਿਰਕੇ:ਵੈਸ਼ਨਵ, ਸ਼ੈਵ ਅਤੇ ਸਾਕਤ(ਜਾਣ-ਪਹਿਚਾਣ ਅਤੇ ਮੁੱਖ ਸਿੱਧਾਂਤ)
2. ਭਗਵਤ ਗੀਤਾ: ਜਾਣ-ਪਹਿਚਾਣ ਅਤੇ ਮੁੱਖ ਸਿੱਧਾਂਤ
3. ਮਹਾਂਭਾਰਤ ਤੇ ਰਾਮਾਇਣ: ਜਾਣ ਪਹਿਚਾਣ ਅਤੇ ਮੁੱਖ ਸਿੱਧਾਂਤ
4. ਪ੍ਰਮੁੱਖ ਹਿੰਦੂ ਤੀਰਥ

ਭਾਗ (ਏ): ਜੈਨ ਧਰਮ

1. ਤੀਰਥੰਕਰ ਅਤੇ ਭਗਵਾਨ ਮਹਾਂਵੀਰ ਦਾ ਜੀਵਨ
2. ਮੁੱਖ ਸਿਧਾਂਤ:ਪੰਜ ਮਹਾਵਰਤ, ਕਰਮ ਅਤੇ ਮੁਕਤੀ
3. ਧਰਮ ਗ੍ਰੰਥ ਅਤੇ ਫ਼ਿਰਕੇ
4. ਜੈਨ ਮੰਦਰ ਅਤੇ ਕਲਾ

ਭਾਗ (ਸ): ਬੁੱਧ ਧਰਮ

1. ਮਹਾਤਮਾ ਬੁੱਧ ਦਾ ਜੀਵਨ
2. ਮੁੱਖ ਸਿੱਧਾਂਤ:ਚਾਰ ਆਰੀਆ ਸੱਚ ਅਤੇ ਪ੍ਰਤੀਤੱਯਸਮੁਤਵਾਤ
3. ਧਰਮ ਗ੍ਰੰਥ ਅਤੇ ਫ਼ਿਰਕੇ
4. ਬੁੱਧ ਮੰਦਰ ਅਤੇ ਕਲਾ

ਭਾਗ (ਹ) ਸੰਖੇਪ ਉਤਰਾਂ ਵਾਲੇ 10 ਪ੍ਰਸ਼ਨ

ਸੁਝਾਈਆਂ ਪੁਸਤਕਾਂ ਦੀ ਸੂਚੀ

1. ਡਾ. ਗੰਡਾ ਸਿੰਘ, ਤੇਜਾ ਸਿੰਘ, *ਸਿੱਖ ਇਤਿਹਾਸ*, ਭਾਗ ਪਹਿਲਾ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
2. ਸਰਦੂਲ ਸਿੰਘ ਕਵੀਸ਼ਰ, *ਸਿੱਖ ਧਰਮ ਦਰਸ਼ਨ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
3. ਡਾ. ਸ਼ੇਰ ਸਿੰਘ, *ਗੁਰਮਤਿ ਦਰਸ਼ਨ*, ਸ਼੍ਰੋਮਣੀ ਗੁਰਦੁਆਰਾ ਪ੍ਰਬੰਧਕ ਕਮੇਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
4. ਡਾ. ਜਸਬੀਰ ਸਿੰਘ ਆਹਲੂਵਾਲੀਆ, *ਸਿੱਖ ਫਲਸਫੇ ਦੀ ਭੂਮਿਕਾ*, ਰਘੁਬੀਰ ਰਚਨਾ ਪ੍ਰਕਾਸ਼ਨ, ਚੰਡੀਗੜ੍ਹ।
5. ਡਾ. ਮਹਿੰਦਰ ਕੌਰ ਗਿੱਲ, *ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ ਦੀ ਸੰਪਾਦਨਾ ਕਲਾ*।
6. ਪਿਆਰਾ ਸਿੰਘ ਪਦਮ, *ਸ੍ਰੀ ਗੁਰੂ ਗ੍ਰੰਥ ਪ੍ਰਕਾਸ਼*, ਕਲਮ ਮੰਦਿਰ, ਲੋਅਰ ਮਾਲ, ਪਟਿਆਲਾ।
7. ਪ੍ਰੋ. ਤਾਰਾ ਸਿੰਘ, *ਵਾਦਨ ਕਲਾ*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
8. ਡਾ. ਗੁਰਨਾਮ ਸਿੰਘ, *ਗੁਰਮਤਿ ਸੰਗੀਤ: ਪ੍ਰਬੰਧ ਤੇ ਪ੍ਰਕਾਸ਼*, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ, ਪਟਿਆਲਾ।
9. ਡਾ. ਤਾਰਨ ਸਿੰਘ, *ਗੁਰੂ ਗ੍ਰੰਥ ਸਾਹਿਬ ਦਾ ਸਾਹਿਤਕ ਇਤਿਹਾਸ*, ਸ਼੍ਰੋਮਣੀ ਗੁਰਦੁਆਰਾ ਪ੍ਰਬੰਧਕ ਕਮੇਟੀ, ਅੰਮ੍ਰਿਤਸਰ।
10. ਸਮਸ਼ੇਰ ਸਿੰਘ ਅਸ਼ੋਕ, *ਪੰਜਾਬ ਦੀਆਂ ਲਹਿਰਾਂ*, ਅਸ਼ੋਕ ਪੁਸਤਕਮਾਲਾ, ਪਟਿਆਲਾ।
11. ਗੰਡਾ ਸਿੰਘ (ਸੰਪਾ.) *ਪੰਜਾਬ* : (ਭਾਈ ਜੋਧ ਸਿੰਘ ਅਭਿਨੰਦਨ ਗ੍ਰੰਥ), ਪੰਜਾਬੀ ਸਾਹਿਤ ਅਕਾਦਮੀ, ਲੁਧਿਆਣਾ
12. Ganda Singh (Ed.), *Punjab : Past and Present* (Singh Sabha Issue), Punjabi University, Patiala.
13. J.N. Farquhar, *Modern Religious Movements in India*, Munshi Ram, Manohar Lal, New Delhi.
14. Teja Singh, *Ideals and Institution of Sikhism*, Khalsa Brothers, Amritsar.
15. ਡਾ. ਨਰਿੰਦਰ ਕੌਰ ਭਾਟੀਆ, ਡਾ. ਜਸਵਿੰਦਰ ਕੌਰ ਢਿੱਲੋਂ (ਸੰਪਾ.), ਪ੍ਰਮੁਖ ਸਿੱਖ ਸੰਸਥਾਵਾਂ, ਗੁਰੂ ਨਾਨਕ ਦੇਵ ਯੂਨੀਵਰਸਿਟੀ, ਅੰਮ੍ਰਿਤਸਰ।

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Humanities & Religious Studies)

SEMESTER – I
PHILOSOPHY

ELEMENTARY PHILOSOPHY

Time: 3 Hours **Marks: 100**
Lectures to be delivered: 75 **Pass Marks 35%**

Instructions for the Paper-Setters:
The question paper will consist of five sections A,B,C,D and E. Sections A,B,C and D will have two questions from the respective sections of the syllabus and will carry 15 marks each. Section E will consist of 10 short answer type questions and will cover the entire syllabus uniformly and will carry 40 marks in all, each short answer type question carrying 4 marks.

Instructions for the Candidate:
Candidates are required to attempt one question each from the Sections A,B,C and D of the question paper and the entire Section E.

Section-A

1. An Introduction to Philosophy: Definition, Meaning and Uses
2. Introduction to the Branches of Philosophy: Metaphysics, Epistemology and Ethics.
3. Relation of Philosophy with Religion.

Section B

4. Human Rights: Definition and Scope
5. Social Justice: Problems and Solutions of Casteism and Gender Discrimination.
6. World Peace: Problems and Solutions.

Section-C

7. Guru Nanak: Hukam,Karam and Naam
8. Swami Vivekanand : Humanism and Universal Religion.
9. M.K.Gandhi : Ahimsa and Satyagrah.

Section-D

10. Culture: Definition and Components
11. Culture and Civilization.
12. Culture and Religion

Section-E

Ten short answer type questions.

Recommended Readings:

1. Teja Singh, *Sikhism; Its Ideals and Institutions,* Khalsa Brothers, Amritsar, 1970.
2. H.H. Titus, *Living Issues in Philosophy,* Eurasia, New Delhi, 1968.
3. V.S. Narvane, *Modern Indian Thought; A Philosophical Survey,* Asia, Bombay, 1967.
4. J.S. Mackenzie, *Outlines of Social Philosophy,* Allen and Unwin, London, 1963.
5. B.K. Lal, *Contemporary Indian Philosophy,* Motilal Banarsidas, Delhi, 1978.
6. Alan Wingate, *Human Rights, Comment and Interpretation,* UNESCO, 1949.
7. Human Rights (NCERT)
8. ਗੁਰਸ਼ਰਨਜੀਤ ਸਿੰਘ(ਡਾ.) ਗੁਰੂ ਨਾਨਕ ਬਾਣੀ ਵਿਚਲੀ ਨੈਤਿਕਤਾ ਦਾ ਅਜੋਕਾ ਪ੍ਰਸੰਗ ਭਾਈ ਚਤਰ ਸਿੰਘ ਜੀਵਨ ਸਿੰਘ ਅੰਮ੍ਰਿਤਸਰ,2007
10. U.Chandra., *Human Rights,* Allahabad Law Agency, Allahabad. 2000.
11. Robert and Beck, Handbook of Social Philosophy.
12. Dr. S.P. Gautam, *Samaj Darshan*, Haryana Sahit Academy, Panchkula.
13. Dr. Himat Singh Sinha, *Sanskrit Darshan*, Haryana Sahit Academy, Panchkula.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Humanities & Religious Studies)

SEMESTER – II
PHILOSOPHY

ETHICS: WESTERN AND INDIAN

Time: 3 Hours **Marks: 100**
Lectures to be delivered 75 **Pass Marks 35 %**

Instructions for the Paper-Setters:

The question paper will consist of five sections A,B,C,D and E. Sections A,B,C and will have two questions from the respective sections of the syllabus and will carry 15 marks each. Section E will consist of 10 short answer type questions and will cover the entire syllabus uniformly and will carry 40 marks in all, each short answer type question carrying 4 marks.

Instructions for the Candidate:
Candidates are required to attempt one question each from the Sections A,B,C and D of the question paper and the entire Section E.

Section-A

1. Defination,Nature, Scope and Utility of Ethics.
2. Relation of Ethics with Religion.

Section-B

3. Plato : Virtues.
4. Kant : Categorical Imperative, Good Will.
5. Hedonism : Bentham and Mill : Hederism

Section-C

6. Bhagavad Gita : Nishkama Karma.
7. Guru Granth Sahib : Virtues

Section-D

8. Buddhism : Four Noble Truths and Eight Fold Path
9. Yoga Philosophy : Kinds and Ashtangyoga
10. Jainism : Tri Ratna and Kavalya.

Section-E

Ten short answer type questions.

Recommended Readings:

1. Balbir Singh, *Principles of Ethics,* S. Nagi, Jalandar, 1978.
2. S.N. Gupta, *Niti Shastra* (Punjabi).
3. Ved Parkash Verma, *Niti Shastra* (Hindi), Allied Publishers, New Delhi, 1987.
4. William Lillies, *An Introduction to Ethics,* Methuen, London, 1957.
5. J.S. Mackenzie, *Mannual of Ethics.*
6. Avtar Singh, *Ethics of the Sikhs,* Punjabi University, Patiala, 1970.
7. ਡਾ. ਸ਼ਾਂਤੀ ਨਾਥ ਗੁਪਤਾ, *ਭਾਰਤੀ ਦਰਸ਼ਨ*, ਪੰਜਾਬ ਸਟੇਟ ਯੂਨੀਵਰਸਿਟੀ, ਟੈਕਸਟ ਬੁੱਕ ਬੋਰਡ, ਚੰਡੀਗੜ੍ਹ, 1974
8. ਡਾ. ਆਰ.ਡੀ. ਨਿਰਾਕਾਰੀ, *ਭਾਰਤੀ ਦਰਸ਼ਨ, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ,ਪਟਿਆਲਾ*

B.A./B.Sc. (Semester System) (12+3 System of Education)

(Faculty of Applied Sciences)

SEMESTER – I
FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL) FSQC (I)

FOOD CHEMISTRY AND NUTRITION (THEORY)

Time: 3 Hours **Total Marks: 100**

Theory Marks: 75

Practical Marks: 25

Instructions for the Paper Setters:

Question paper will cover both the main topics and divided into three parts. Each part contains atleast two questions and students will be asked to attempt five questions in all with at least two from each part.

Part – I

1. Introduction to nutrition–food as a source of nutrients, function of foods, definition of nutrition, nutrients, adequate, optimum and good nutrition, malnutrition.
2. Inter–relationship between nutrition and health–parameters of good health.
3. Food guide–basic five food groups – Importance, uses.
4. Food Metabolism – digestion, absorption, transport, utilization of nutrients in the body.
5. Water–function, sources, requirement, water balance, effect of deficiency on health.
6. Carbohydrate—composition, classification, food sources, storage in body, reaction, structure, functions of mono,oligo and poly saccharides in foods.
7. Fat and oils—composition, saturated, unsaturated fatty/acids, food sources, functions of fats. Nomenclature classification. Physical and chemical properties Emulsions and emulsifiers. Role of fat and oil in food processing and its organoheptic characteristics.
8. Proteins—composition essential, non–essential amino acids, sources of protein, functions, protein deficiency diseases.
   Physico–chemical properties. Modification of Food protein during processing and storage.
9. Energy—unit of energy, food as a source of energy, calorific value of food need for energy, Basic metabolic role, utilization of fat energy requirement.
10. Minerals, function, source, bio–availability, deficiency of calcium, iron, iodine, fluorine, sodium potassium.
11. Vitamins: classification, sources, functions and deficiency, diseases of following vitamins :–
    a) Fat soluble vitamins – Vitamin. A,D,E & K
    b) Water soluble vitamins: vitamins C & B–Complex
12. Recommended dietary Requirements: Nutrient requirement for adult men & women as per ICMR.
13. Enzymes: Nomenclature definition, specificity, catalysis, enzyme, kinetics, Factors influencing enzyme activity, controlling enzyme action. Role of enzymes in food processing, modification of food by endogenous enzyme. Enzyme inhabitors in foods.
14. Pigments sources, chemical and physical properties, effect of processing and storage on pigments.
15. Flavours – vegetable, fruits, spice and sea foods fermented products.

Part–II

16. **Cereals & Pulses:**
    Cereals and millets, breakfast cereals, cereal products, fast foods structure, processing, use in variety of preparations, selection, variety storage, nutritional aspects and cost. Pulses & legumes– Production (in brief) selection and variety, storage, processing, use in variety of preparations, nutritional aspects and cost.
17. **Milk and Milk Products :**
    Composition, classification, quality processing, storage, spoilage, uses, cost, nutritional aspects of milk curds, butter milk paneer, khoa, cheese; ice–cream, kulfi and various kinds of processed milk.

Part – III

18. **Egg:** Production, grade, quality, selection storage, spoilage, uses, cost and nutritional aspects.
19. **Fish, Poultry and Meat:**
    Selection, purchase, storage, uses, cost and nutritional aspects, spoilage of fish, poultry & meat.
20. **Vegetables & Fruits:**
    Variety, selection, purchase, storage availability, cost use and nutritional aspects of raw and processed vegetables and fruits.
21. **Fats & Oils:**
    Types and sources of fats and oils (animal and vegetable) Processing uses, storage, cost and nutritional aspects.
22. **Sugar & Sugar Products:**
    Different forms of sugar, (sugar, jaggery, honey syrup) manufacture, selection, storage & use preserves.
23. Salt types, uses in the diet.
24. Convienence Foods. Tea, coffee, choclate and coca powder.
25. Processing cost and nutritional aspects.

References:

1) Guthrie, hele, andrews, Introductory Nutrition 6th ed. St. Louis, Times Mirror/Mosby College, 1988.
2) Mudambi S.R., M.V. Rajgopal, Fundamentals of Foods and nutritions (2nd ed.) Wiley Eastern Ltd., 1990.
3) Swaminathan S.: Advanced text book of Foods Nutrition Vol. 1,11, (2nd ed. revised & enlarged) B.app.C. 1985)
4) Willson, PVAD, Principles of Nutrition, 4th ed. New York John Willey & Sons, 1979.
5) Food Chemistry, ed. Or Feneema 2nd ed.
6) Food Chemistry, Mian Hoagland Meger
7) Food Chemistry He Mann

Book Recommended:

1. Food Chemistry by O.R. Fennema, 3rd ed, 1996, CRC Press, USA.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Applied Sciences)

SEMESTER – I
FSQC–2 FOOD CHEMISTRY AND NUTRITION (PRACTICAL)

Marks: 25

List of Practical

1. Determination of acid value.
2. Determination of lodine value.
3. Determination of saponification value.
4. Quantitative value (testing of proteins, lipids and carbohydrates in different foods.
5. Estimation of Vitamin C.
6. Separation of aminoacids by chromatography (paper in exchange column).
7. Clorination of water.
8. Determination of food enzymes.
9. Determination of fibres content in food.
10. Salt determination in food products.
11. Estimation of Volatile and nonvolatile acids in vinegar.
12. Estimation of fat in food sample by Soxhlet apparatus.
13. Cream separation, neutralization and ripening of milk.
14. Preparation of butter.
15. Preparation of Ghee.

SEMESTER – II
FOOD SCIENCE AND QUALITY CONTROL (VOCATIONAL)

FSQC (3) FOOD MICRO BIOLOGY (THEORY)

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
Question paper will cover both the main topics and divided into three parts. Each part will contain atleast two questions and students will be asked to attempt five questions in all with atleast two from each part.

Periods

Part–I

1. Microbiology of air, water, food products. 2
2. The relationship of Microorganisms to sanitation, role of microbiology environmental effects of Microbiology growth. 5

Part–II

3. Other food hazards—chemicals, antibiotics, hormones, metals contamination poisonous foods. 3
4. Importance of personal hygiene of handler—habits–clothes, illness, Education of handler in handling and service food.
   Safety in food procurement, storage, handling and preparation, control of spoilage—safety of left of left owen foods.

Part–III

5. Cleaning methods—sterlisation and disinfection–products and methods—use of detergents, heat, chemicals tests for sanitiser strength.
6. Sanitation—kitchen design equipment and systems structure and layout of food, presses maintaining clean environment. Selection and installing equipment cleaning equipment.
   Waste product handling. Planning for waste disposal. Solid wastes and liquid wastes and its treatment.
7. Control of infestation
   Rodent Control—Rats, Mice Rodent, profine, destruction, Vector control. Use of pesticides
8. Food Sanitation, control and inspection—planning and Implementation of training programmes for health personal.

References:

1. Jacob, M. (1989) Safe Food Handling, Training Guide for Manager, WHD, Geneva, Marriott, N.G., (1989).
2. Principles of Food Sanitation–II Edition, AVI Book, Van Noistrand Reinhold, New York.
3. Hobbs, B.C. and R.J. Gilbert (1978) Food Poisoning and Food Hygiene, 4th Edition. The English Language Book Society and Edward Arnold (Publishers) Ltd.,
4. Longree K. (1967), Quantity Food Sanitation, Interscience Publishers, New York.
5. Kawata, K. (1963), Environmental Sanitation in India, Lucknow Publishers, New York.
6. Minor L.J. (1983) Sanitation, Safety and Environmental Standard, AVI Publishing Co., Westport, Connecticut.
7. Frazier, W.C. "Food Microbiology", 4th Ed. 1988, McGraw Hill, New York.
8. Kawata K. "Environmental Sanitation in India" 1963, Lucknow Publ. House.
9. Pelezar H.J. and Rober, "Microbiology", 2nd Ed. 1968, McGraw Hill, New York.
10. Banwart G. T. "Basic Food Microbiology", 1987, CBS Publ., New Delhi.
11. Jay, J.H., "Modern Food Microbiology," CBS Pub., New Delhi.

SEMESTER – II
FOOD SCIENCE AND QUALITY CONTROL

FSQC–4 FOOD MICROBIOLOGY (PRACTICAL)

Marks: 25

List of Practicals:–

1. Instruments of microbiology laboratory and their functions.
2. Sterilization techniques
   (a) Dry heat
   (b) Moist heat
   (c) filtration
   (d) Irradiations.
3. Preparation of medias, agar stants, plates, broth.
4. Serial dilution techniques.
5. Cell count by heamocytometer (DMC) in the given food sample.
6. Techniques for isolation and enumeration of micro organisms.
   (a) Culture transfer technique.
   (b) Spread plate technique.
   (c) Steak plate technique.
   (d) Cultural characteristics of microorganisms.
7. Gram Staining of Bacteria.
8. Isolation of amyloytic, Proteolytic & acid producing bacteria from the given sample.
9. To measure the cell size: ocular micrometer and stage micrometer.
10. Bacteriological analysis of water sample.
11. Bacteriological analysis of milk and milk product.
12. Microbial analysis of cereal products.
13. Microbiology of egg.
14. Bacteriological analysis of Tamato products.
15. Microbiology of meat.

B.A./B.Sc. (Semester System) (12+3 System of Education)

(Faculty of Engineering & Technology)

COMPUTER SCIENCE
SCHEME OF EXAMINATION

	Marks	Exam. Hours
Semester–I Theory:Computer Fundamental & PC Software	75	3
Semester–II Theory:Programming using C Language	75	3
Practical: Practical based on **Computer Fundamental & PC Software**	25	
Practical based on **Programming in C Language**	25	

Theory – 4 hours per week

Practical – Practical 2 per Week

Note:

(i) Practical marks will include the appropriate weightage for proper maintenance of Lab record.

(ii) The students can use only Non Programmable & Non Storage Type Calculator.

SEMESTER–I

COMPUTER SCIENCE

COMPUTER FUNDAMENTAL & PC SOFTWARE

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.
(iii) The students can use only Non Programmable & Non Storage Type Calculator.

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UNIT–I

1. Introduction to computer and its uses: milestones in hardware and software. – Batch oriented/Online/real time application.
2. Computer as a system: basic concepts: stored programs, functional units and their inter – relation: communication with the computer.
3. Data storage devices and media: primary storage: storage addressed, and capacity, type of memory: secondary storage; magnetic tape – data representation and R/W: magnetic disc, fixed & removable, data representation and R/W, floppy disc drives, Winchester disc drive, conventional disc drives, Data organization, Compact Disc.
4. Input/Output devices: Key–tape/diskette devices, light pen mouse and joystick, source data automation (MICR, OMR, and OCR), screen assisted data entry; portable/hand held terminals for data collection, vision input system.
5. Printed output: Serial, line, page, printers; plotters, visual output; voice response units.

UNIT–II

Introduction to Windows based operating system and Desktop icons

UNIT–III

MS–Office:

Introduction to Word, Introduction to Parts of Word Window (Title Bar, Menu Bar, Tool Bar, The Ruler, Status Area), Page Setup, Creating New Documents, Saving Documents, Opening an Existing documents, insert a second document into an open document, Editing and formatting in document, Headers and Footers, Spell Checking, Printing document, Creating a Table Using the Table Menu and table formatting, Borders and Shading, Templates and Wizards, Mail Merge

MS Power Point :

Introduction to MS Power point, Power point elements, Templates, Wizards, Views, Exploring Power Point Menu, Working with Dialog Boxes, Adding Text, Adding Title, Moving Text Area, Resizing Text Boxes, Adding Art, Starting a New Slide, Starting Slide Show, Saving presentation; Printing Slides, Views (View slide sorter view, notes view, outlines view) Formatting and enhancing text formatting, Creating Graphs (Displaying slide show and adding multi–media)

PRACTICAL

Marks: 25

Practical based on Computer Fundamental & PC Software

Windows, MS Word, Power Point,

References:

1. R.K. Taxali: Introduction to Software Packages, Galgotia Publicaions.
2. MS–Office 2003 compiled by SYBIX
3. MS–Office 2003 BPB Publications.
4. Introduction to Computer by P.K. Sinha
5. Windows Based Computer Courses by Gurvinder Singh & Rachpal Singh, Kalyani Publishers.

SEMESTER–II
COMPUTER SCIENCE

PROGRAMMING USING C

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.
(iii) The students can use only Non Programmable & Non Storage Type Calculator.

UNIT–I

Data Representation, Introduction to Number Systems and Character Codes, Flow Charts, Problem Analysis, decision tables, pseudo codes and, algorithms.

UNIT–II

Programming Languages C:

Basics of C: Introduction to C, Applications and Advantages of C, Tokens, Types of Errors

Data Types: Basic & Derived Data Types, User Defined Data Types, Declaring and initializing variables.

Operators and Expressions: Types of operators (Unary, Binary, Ternary), Precedence and Associativity

Data I/O Functions: Types of I/O function, Formatted & Unformatted console I/O Functions

Control Statements: Jumping, Branching and Looping–Entry controlled and exit controlled, Advantages/Disadvantages of loops, difference between for, while and do–while.

UNIT–III

Arrays: Types of Arrays, One Dimensional and Two Dimensional Arrays.

Strings: Introduction to Strings and String functions, array of strings.

Functions: User Defined & Library Function, Function (Prototype, Declaration, Definition), Methods of passing arguments, local and global functions, Recursion.

Storage Classes: Introduction to various storage classes, scope and lifetime of a variable, Storage class specifiers (auto, register, static, extern), advantages and disadvantages.

Structure and Union: Introduction to structure and union, pointers with structure.

PRACTICAL

Marks: 25

Practical based on Programming in C

Books Suggested:

(i) Programming with C Languages C. Schaum Series.
(ii) Yashwant Kanitkar – Let Us C
(iii) C Programming by Stephen G Kochan

SEMESTER–I
INFORMATION TECHNOLOGY (VOCATIONAL)

COMPUTER FUNDAMENTAL & OFFICE AUTOMATION

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.
(iii) The students can use only Non Programmable & Non Storage Type Calculator.

Unit–I

Fundamentals:

Basic Block Diagram of the Computer System, Basic Elements of the Computer System (CPU, Keyboard, Mouse, Monitor), Generations of computers, Computer Number System BIT, Byte, binary, Decimal, Hexadecimal, Octal system, Conversion from one System to another, Binary Arithmetic Subtraction, Multiplication), Input Devices (Keyboard, Mouse Joystick, light pen, and trackball), Output Devices (Monitors or Printers), Memories (Primary and Secondary), RAM, PROM, EPROM, EEROM), cache memory, Storage Devices (Floppy disk, hard Disk, compact Disk, tape)

Computer Languages: machine Language, assembly language, High level languages, operating System, Batch Processing multi–programming, time sharing.

Unit–II

Windows: Windows concepts features, Windows structure, desktop, taskbar, start menu, My computer, recycle bin, Windows Accessories.

Word Processing : Introduction to Word, Introduction to Parts of Word Window (Title Bar, Menu Bar, Tool Bar, The Ruler, Status Area), Page Setup, Creating New Documents, Saving Documents, Opening an Existing documents, insert a second document into an open document, Editing and formatting in document, Headers and Footers, Spell Checking, Printing document, Using the Thesaurus, Using Auto Correct, Auto Complete and Auto Text, Creating a Table Using the Table Menu and table formatting, Borders and Shading, Templates and Wizards, Mail Merge, Drawing Objects, Using Frames to position Objects, Handling Graphics, Tables and Charts.

Unit–III

Worksheets: MS–Excel: Creating worksheets, entering data into worksheet, saving & quitting worksheet, opening and moving around in an existing worksheet, Toolbars and menus, Working with single and multiple workbook, Working with formulae, formatting of worksheet.

MS Power Point: Introduction, elements, Text, Title, Sliders Formatting and enhancing text formatting, Views, Creating Graphs, Displaying slide show and adding multi–media.

PRACTICAL

1. On the basis of Computer Fundamental & Office Automation: **Marks: 25**

Books Recommended:

1. M.S. Office, The Complete Reference by Keitel, McGraw Hill.
2. Office XP the Complete Reference by Kelly, Edition 2001, McGraw Hill.
3. B.RAM, "Computer Fundamental" First Edition, Dhanpat Rai & Sons Pub.
4. Peter Norton, "Introduction to Computers" 6th Edition 2004, McGraw Hill, HTML, DHTML Java Script, "Gyan Bayrose" 3rd Edition BPB.

SEMESTER–II
INFORMATION TECHNOLOGY (VOCATIONAL)
INTERNET & DATA COMMUNICATION

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.
(iii) The students can use only Non Programmable & Non Storage Type Calculator.

Unit–I

Internet:

Internet Applications, Domain Name System, Electronic Mail the World Wide Web, Multimedia Audio, Video, Data corporate File transfer Protocol, Mail transfer Protocol, Telnet, HTTP.

Unit–II

Introduction to HTML, HTML and the World Wide Web, HTML elements, basic structure of elements, creating HTML pages, viewing pages in different browsers, rules for nesting the HTML tags, color and fonts, formatting the body section, creating links, creating external links, creating internal links, adding graphics with image elements, image element attributes, using image as links.

Unit–III

Computer Networks, Network Hardware, Network Categorization–LAN, MAN, WAN, OSI & TCP/IP Reference Models, Transmission Media, Wireless Transmission, Communication satellites.

PRACTICAL

On the basis of Internet & Data Communication **Marks: 25**

Books Recommended:

1. D.H. Sanders, "Computers Today", McGraw Hill, 1998.
2. Complete Network by Andrew Tanenbaum, 4th Edition, Prentice Hall India.

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SEMESTER–I

COMPUTER MAINTENANCE

PRINCIPLE OF ELECTRONICS

Time: 3 Hours **Total Marks: 100**

Theory Marks: 75

Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.

(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.

(iii) The students can use only Non Programmable & Non Storage Type Calculator.

Unit–I

* **Introduction to Electronics:** Voltage Source, Current Source, Electronic Components, CRO, Digital Multimeter.
* **Network Theorems:** Thevenin's Theorem, Maximum Power Transfer Theorem, Norton's Theorem, Power Supplies.

Unit–II

* **Semiconductor Devices:** P–N Junction, Zener Diode, LEDs, Photodiodes, Transistors, Field Effect Transistor, Metal Oxide Field Efect Transistor.

Unit–III

* **Digital Fundamentals:** Number System, Logic Gates, Boolean algebra.
* **Digital Logic Circuits:** Multiplexers, Demultiplexers, Encoders, Decoders, Flip–Flops, Counters, Shift Registers, Semiconductor Memories.

References:

1. Basic Electronics and Linear Circuits: NN Bhargava (TTTI Chandigarh) –Tata McGraw Hill, 2004.
2. Principles of Electronics V.K. Mehta–S. Chand–2004
3. Digital Computers Electronics: Malvino–Tata McGraw Hill 3rd Edition, 1995.

PRACTICAL

List of Practicals Based on Principle of Electronics **Marks: 25**

1. To Study the Characteristics of P–n junction diodes in forward bias.
2. To Study the Characteristics of P–n junction diodes in reverse bias.
3. To Study the Characteristics of transistor in common base mode.
4. To Study the Characteristics of zener diode.
5. To verify Thevenin's Theorem.
6. To verify maximum power transfer theorem.
7. To verify the truth tables of various logic gates.
8. To verify the truth tables of universal gates and construction of different gates from them.
9. To verify the truth tables of SR and JK flip–flops.

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SEMESTER–II
COMPUTER MAINTENANCE

COMPUTER ORGANIZATION AND ASSEMBLING

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.
(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.
(iii) The students can use only Non Programmable & Non Storage Type Calculator.

Unit–I

* **Top Level View of Computer Function & Interconnection:** Computer Component, Functions Interconnection Structure, Bus Interconnection.
* **Computer Arithmetic:** ALU, Integer Representation, Integer Arithmetic, Floating Point Representation, Floating Point Arithmetic.

Unit–II

* **Basics Computer Organization & Design:** Instruction Codes, Computer Registers. Computer Instructions, Timing and Control, Instruction Cycle, Memory Reference Instruction.
* **Micro Programmed Control:** Control Memory, Addressing Sequence, Micro Program Example, Design of Control Unit.

Unit–III

* **CPU:** Stack Organization, Instruction Format, Addressing Modes, Data Transfer and Manipulation, RISC.
* **I/O Organization:** Asynchronous Data Transfer, Modes of Transfer, Priority Interrupt DMA, IOP.
* **PC Assembling :** Introduction of Motherboards, Power Supply, RAM, Drivers, Keyboard Monitor, Processors and assembling the Computer System.

References:

1. Computer Architecture: Morris Mano–Pearson Education, 3rd Edition, 1993
2. PC Upgrade & Maintenance Guide: Mark Minasi–BPB Publishers, 15th Edition 2004.

PRACTICAL

List of Practicals Based on Computer Organization and Assembling **Marks: 25**

1. To study the various I/O devices.
2. To study the power supply system.
3. To study the usage of various tools.
4. To study the techniques of soldering and desoldering.
5. Installation of operating systems and software.
6. PC Assembling & Disassembling.

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COMPUTER APPLICATIONS (VOCATIONAL)
SCHEME FOR COMPUTER APPLICATIONS

Semester – I		**Computer Fundamentals & PC Software**	**Max.Marks: 75**
Semester – II		**Programming Using C**	**Max.Marks: 75**
Practical	**:**	**Semester I & II**	**Max.Marks: 25+25**

Theory : 4 Hours per week in Semester – I & II

Practical : 2 Hours per week (each paper)

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SEMESTER–I

COMPUTER FUNDAMENTALS & PC SOFTWARE

Time: 3 Hours **Total Marks: 100**

Theory Marks: 75

Practical Marks: 25

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.

(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.

(iii) The students can use only Non Programmable & Non Storage Type Calculator.

Unit–I

1. Elements of a Computer System:

1.1 What is a Computer?

1.2 Evolution of Computers, their classification and limitations, Computer organization.

1.3 Uses of Computers in modern society (e.g. Weather forecasting, Census, Oil Exploration, Speech Recognition, Banking, Publishing, Accounting, Research, etc.)

1.4 Characteristics of Desktop

1.5 Characteristics of Portables/Laptops

1.6 Introduction to Hardware, Software, Operating System, Translators.

2. Input Output Devices:

2.1 Input Devices and Functions

* Keyboard and teletypewriter terminals
* Joystick
* Mouse
* Light Pen
* Magnetic Tapes and cassettes
* Magnetic Disks
* Floppy and Winchester Disks
* Optical Marks Reader (OMR)
* Optical Character Reader (OCR)
* Magnetic Ink Character Reader (MICR)
* Punched Cards

2.2 **Output Devices and Functions:**

a) Visual Display Unit (Monitor), Pixel & resolution, Monitors Size, Monochrome & Color, VGA & SVGA

b) Plotters

c) Printers

e) CTD

3. H/W Organization of a Desktop Computer:

3.1 Introduction to hardware components
3.2 C.P.U. Control Units, ALU, Registers
3.3 Instruction Characteristic and Instruction Cycle
3.4 Memory
  a) RAM – Dynamic RAM, Static RAM
  b) ROM–PROM, EPROM, EEPROM
  c) Cache, Virtual, Extended and Expanded Memories
3.5 Secondary Memory (Storage devices)
  a) Floppy Disk
  b) Hard Disk
  c) DAT
  d) Video or Optical Disk (CD ROM)
  e) CTD
3.6 Moderns and its Types

Unit–II

4. Basics of Windows Vista:

a) The Desktop, the Taskbar
b) Start Menu
c) Program, Document, Settings, Find, Help, Run, Shutdown
d) About the My Computer Icon
e) About the networking neighborhood Icon
f) Recycle bin
g) Folders–Creation and Definition
h) New Rules for File Names
i) Windows Explorer (Definition)
j) Shortcut Icons with creation and definition

Unit–III

MS–Word 2003:

Introduction to Word, Introduction to Parts of Word Window (Title Bar, Menu Bar, Tool Bar, The Ruler, Status Area), Page Setup, Creating New Documents, Saving Documents, Opening an Existing documents, insert a second document into an open document, Editing and formatting in document, Headers and Footers, Spell Checking, Printing document, Creating a Table Using the Table Menu and table formatting, Borders and Shading, Templates and Wizards, Mail Merge Drawing Objects, Using Frames to position Objects.

MS Power Point 2003:

Introduction to MS Power point, Power point elements, Templates, Wizards, Views, Exploring Power Point Menu, Working with Dialog Boxes, Adding Text, Adding Title, Moving Text Area, Resizing Text Boxes, Adding Art, Starting a New Slide, Starting Slide Show, Saving presentation; Printing Slides, Views (View slide sorter view, notes view, outlines view) Formatting and enhancing text formatting, Creating Graphs (Displaying slide show and adding multi–media)

Text Books:

1. MS–Office 2003 Compiled by SYBIX
2. MS–Office 2003 BPB Publications.
3. Introduction to Computer by P.K. Sinha

PRACTICAL

Marks: 25

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SEMESTER – II
COMPUTER APPLICATIONS (VOCATIONAL)

PROGRAMMING USING C

Total Marks: 100
Theory Marks: 75
Practical Marks: 25

Theory: 4 Hours per week

Practical: 2 Hours per week

Instructions for the Paper Setters:

(i) Eight questions are required to be set giving the equal weightage to all the units. The candidates will be required to attempt any five questions. All questions will carry equal marks.

(ii) Practical marks will include the appropriate weightage for proper maintenance of Lab record.

(iii) The students can use only Non Programmable & Non Storage Type Calculator.

Unit–I

Data Representation, Flow Charts, Problem Analysis, Decision tables, Pseudo codes and Algorithms.

Programming Using C:

Basics of C: Introduction to C, Applications and Advantages of C, Tokens, Types of Errors

Data Types: Basic & Derived Data Types, User Defined Data Types, Declaring and initializing variables.

Operators and expressions: Types of operators **(**Unary, Binary, Ternary), Precedence and Associativity

Unit–II

Data I/O Functions: Types of I/O function, Formatted & Unformatted console I/O Functions

Control Statements: Jumping, Branching and Looping–Entry controlled and exit controlled, Advantages/Disadvantages of loops, difference between for, while and do–while.

Arrays: Types of Arrays, Advantages/Disadvantages of arrays. Insertion, Deletion, Searching and sorting operations on array

Strings: Introduction to Strings and String functions, array of strings.

Unit–III

Functions: User Defined & Library Function, Function (Prototype, Declaration, Definition), Methods of passing arguments, local and global functions, Recursion.

Storage classes: Introduction to various storage classes, scope and lifetime of a variable, Storage class specifiers (auto, register, static, extern), advantages and disadvantages.

Pointers: Introduction, Advantages/Uses of pointers, Limitations of pointers, Difference between void pointer and Null pointer, Pointer arithmetic, operators not allowed on pointers, Types of Pointer**,** Passing Pointers to function, concept of pointer to pointer.

Structure and Union: Introduction to structure and union, pointers with structure.

References:

1. Programming in C : Schaum Outlines series.
2. C Programming : Stephen G. Kochan.
3. Let Us C : Yashwant Kanitkar

PRACTICAL

Marks: 25

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ELECTRONICS

Scheme

SEMESTER – I

Code No.	Paper	Marks
101	Electronics–I	40
102	Electronics–II	40
103	Electronics Practical	20

SEMESTER – II

Code No.	Paper	Marks
201	Electronics–III	40
202	Electronics–IV	40
203	Electronics Practical	20

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SEMESTER – I

ELECTRONICS – I (101)

Time: 3 Hours **Marks: 40**

Instructions for the Examiners / Paper Setters:

1. Equal weightage should be given to each unit of the syllabus.
2. Question Paper should be set strictly according to the syllabus.
3. The distribution of marks is as given below:

Section A: This will consist of 10 (ten) very short answer type questions. All questions will be compulsory. Each question will carry 1 mark; total weightage of the section being 10 marks.

Section B: This will consist of short–answer questions. The examiner will set Fifteen (15) questions and the candidates will attempt ten (10) questions. Each question will carry 2 marks each, total weightage of the section shall being 20 marks.

Section C: This will consist of essay type questions. The examiner will set three (3) questions and the candidates will be required to attempt two (2). Each question will carry 5 marks each; total weightage of the section being 10 marks.

Note for Teacher / Student: Minimum number of hours for theory are three (3) = 4x45 minutes per week.

Unit–I

Voltage source, Current source, Dependent source, Independent source, R parameters, L parameters, C parameters, Ohm's law, Kirchhoff's Current law, Kirchhoff's Voltage law. Methods of Analysing of Circuits: Analysis of one element kind network, loop node variable analysis, source transformations, Duality, Network topology, basic definitions and properties. Simple RC, RL, RLC, LC dc and ac circuits, concept of time constant. Effect and evaluation of initial conditions, Characteristics of sinusoidal —average, peak and effective values, Phasor representation, Impedance concept, Active power, reactive and complex power, power factor, Q of coil and capacitor, series resonance, parallel resonance, Bandwidth and selectivity.

Network Theorems and Transformation: Superposition theorem, reciprocity theorem, Thevenin's theorem, Norton's theorem, Maximum power transfer theorem, Tellegen's theorem.

Unit – II

Junction Diode and their Atomic structure and energy levels of intrinsic semiconductors and extrinsic semiconductors. Semiconductor diode, diode under forward bias, Reverse bias, current voltage characteristics, diode breakdown, diode resistance, circuit model of PN diode, ideal diode. Zener diode (structure and characteristics), zener regulator. Photo diode, light emitting diode, solar cell and varactor diode

.

Application of Diode: Rectifier circuits: half wave, full wave, center tap and bridge), filters (shunt capacitor, series inductor, LC filter, filter).

Unit – III

Transistors: Bipolar Junction Transistor, Characteristics and structure of BJT, transistor amplifying action, CB, CE, CC connection and their comparison, Transistor biasing, need of biasing, biasing circuits (Fixed bias, self–bias, potential divider bias).

Field Effect Transistor: Junction Field Effect Transistor (Physical structure, Principle of operation), Metal Oxide Field Effect Transistor (Physical structure, Principle of operation), Complimentary MOSFET (CMOS) (Physical structure only).

Recommended Books:

1. Basic Electronics & Linear Circuits by N.N. Bhargava (TMH) Reprint 2002.
2. Basic Electronics by B.L. Theraja (S. Chand & Co.), 1998.
3. Electronic Design from Concept to Reality by M.S. Roders, G.L. Carpenter, Shroff Publishers, Kolkata.
4. Network Analysis & Synthesis by Soni Gupta.
5. Network Analysis & Synthesis by R. Sudhakar.
6. Network Analysis & Synthesis by Van Valkenburg.

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SEMESTER – I

ELECTRONICS–II (102)

Time: 3 Hours **Marks: 40**

Note for Examiner / Paper Setter:

1. Equal weightage should be given to each unit of the syllabus.
2. Question paper should be set strictly according to the syllabus.
3. The distribution of marks is as given below:

Section A: This will consist of 10 (ten) very short answer type questions. All questions will be compulsory. Each question will carry 1 mark; total weightage of the section being 10 marks.

Section B: This will consist of short–answer questions. The examiner will set Fifteen (15) questions and the candidates will attempt ten (10) questions. Each question will carry 2 marks each, total weightage of the section shall being 20 marks.

Section C: This will consist of essay type questions. The examiner will set three (3) questions and the candidates will be required to attempt two (2). Each question will carry 5 marks each; total weightage of the section being 10 marks.

Note for Teacher / Student: Minimum number of hours for theory are three (3) = 4x45 minutes per week.

Unit – I

Binary System: Number system (Decimal, binary, octal, hexadecimal), binary addition and subtraction, negative number represntation, 1's complement, 2's complement of binary number, subtraction using 1's and 2's complement method.

Unit – II

Digital Codes: Weighted Codes – Binary Coded Decimal (BCD), Unweighted Codes – Excess–3 Code, Gray Code, Code conversion— binary to BCD, BCD to binary, binary to Gray, Gray to binary, decimal to Excess–3.

Unit – III

Boolean Algebra–Logic Gates–Karnaugh Map

Boolean Algebra, Logic Gates, universal property of NAND and NOR gates, Duality theorem, De Morgans' Laws, Minimization using Boolean algebra, Karnaugh mapping (up to 4 variables), SOP and POS form, Don't care terms.

Books Recommended:

1. Digital Design by Mano M. Morris (PHI), 3rd Edition, 2006.

2. Fundamentals of Digital Circuits by A. Anand Kumar, 2004 (PHI).

3. Digital Principles & applications by Leach & Donald (TMH), 6th Edition, 2006.

4. Digital Logic Design by Leach/Mal. (McGraw Hill), 2006.

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SEMESTER – I

ELECTRONICS (PRACTICAL) (103)

Time: 3 Hours & 30 Minutes **Marks: 20**

Note:

1. *Perform two experiments at least one from each section*
2. *Minimum hours per week for practical 6.*

Section–A

1. Measurement of (1) voltage (dc and ac); (2) time period of a sinusoidal signal, (3) phase difference, using a cathode ray oscillocope.
2. Study of parallel and series resonance circuit (RLC circuit).
3. Transient Response of RC circuit:– To students the effect of RC time constant when square wave driving voltages of various time periods are applied across series RC circuit.
4. To verify (1) Thevemis's theorem; (2) Reciprocity theorem; (3) Maximum power transfer theorem. (4) Nortin theorem.

Section–B

1. To study a single–stage transistor CE amplifier.
2. To designs a transistor voltage amlifier having given specifications.
3. To design a regulated power supply using Zener diode.
4. To use a digital trainer to verify the given Bollean identity.

Books Recommended:

1. Basic Electronics and Linear Circuits by N.N. Bhargava et. al. (TMH, New Delhi).
2. Circuits and Systems by K.M. Soni (S.K. Kataria & Sons, New Delhi).
3. Digital Electronics Circuit and System by V.K. Puri (TMH, New Delhi).
4. Digital Design by M. Morris Mano (PHI, New Delhi).

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SEMESTER–II

ELECTRONICS–III (201)

Time: 3 Hours **Marks: 40**

Instructions for the Examiner / Paper Setter:

1. Equal weightage should be given to each unit of the syllabus.

2. Question Paper should be set strictly according to the syllabus.

3. The distribution of marks is as given below:

Section A: This will consist of 10 (ten) very short answer type questions. All questions will be compulsory. Each question will carry 1 mark; total weightage of the section being 10 marks.

Section B: This will consist of short–answer questions. The examiner will set Fifteen (15) questions and the candidates will attempt ten (10) questions. Each question will carry 2 marks each, total weightage of the section shall being 20 marks.

Section C: This will consist of essay type questions. The examiner will set three (3) questions and the candidates will be required to attempt two (2). Each question will carry 5 marks each; total weightage of the section being 10 marks.

Note for Teacher / Student: Minimum number of hours for theory are three (3) = 4x45 minutes per week.

Unit – I

Laplace Transforms: Transforms of elementary functions like exponential, step, ramp, impulse, sinusoidal etc; partial fraction expansion, evaluation of residues, Initial value theorem and final value theorem, application of Laplace transforms to network analysis, Relation between step response, impulse response and frequency.

Network Functions: Z, Y, H and ABCD parameters, equivalent circuit in terms of parameters, relationship between parameter sets, parallel and cascade interconnection of two port network function of terminated two port, application of two port parameters to analysis of T, ladder bridged–T and lattice networks.

Unit – II

Single stage transistor amplifier, graphical analysis, DC and AC equivalent of amplifier, load line analysis, current and voltage gain of amplifier, small signal transistor model (H parameter, resistance models) Multistage amplifiers, RC coupled amplifiers, transformer coupled amplifier, direct coupled amplifier, Amplifier classification, Distortion in amplifiers.

Unit – III

Feedback and Oscillator: Feedback in amplifiers, positive feedback, negtive feedback, Principles of oscillators, types of oscillators, Hartley, Collpit, Crystal Oscillators, RC Phase Shift, Wein Bridge Oscillator.

Recommended Books:

1. Basic Electronics & Linear Circuits by N.N. Bhargava (TMH) Reprint 2002.
2. Basic Electronics by B.L. Theraja (S. Chand & Co.), 1998.
3. Electronic Design from concept to Reality by M.S. Roders, G.L. Carpenter, Shroff Publishers, Kolkata.
4. Network Analysis & Synthesis by Soni Gupta.
5. Network Analysis & Synthesis by R. Sudhakar.
6. Network Analysis & Synthesis by Van Valkenburg.

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SEMESTER–II

ELECTRONICS–IV (202)

Time: 3 Hours **Marks: 40**

Instructions for the Examiners / Paper Setters:

1. Equal weightage should be given to each unit of the syllabus.
2. Question paper should be set strictly according to the syllabus.
3. The distribution of marks is as given below:

Section A: This will consist of 10 (ten) very short answer type questions. All questions will be compulsory. Each question will carry 1 mark; total weightage of the section being 10 marks.

Section B: This will consist of short–answer questions. The examiner will set Fifteen (15) questions and the candidates will attempt ten (10) questions. Each question will carry 2 marks each, total weightage of the section shall being 20 marks.

Section C: This will consist of essay type questions. The examiner will set three (3) questions and the candidates will be required to attempt two (2). Each question will carry 5 marks each; total weightage of the section being 10 marks.

Note for Teacher / Student: Minimum number of hours for theory are three (3) = 4x45 minutes per week.

Unit–I

Combinational logic circuits

Arithmetic and Logic circuits, half adder, full adder, half subtractor, full subtractor, comparator, multiplexer, demultiplexer, encoder, decoder, parity generator and checker.

Unit–II

Sequential Circuits: Shift registers, serial in serial–out, serial in parallel–out, parallel in serial–out, parallel in parallel–out, application registers.

Unit–III

Converters: Digital to analog converters: variable resister network, binary ladder. Analog–to–digital converters: simultaneous conversion, counter method, continuous conversion, dual–slope conversion.

Books Recommended:

1. Digital Design by Mano M. Morris (PHI), 3rd Edition, 2006.

2. Fundamentals of Digital Circuits by A. Anand Kumar, 2004 (PHI).

3. Digital Principles & Applications by Leach & Donald (TMH), 6th Edition, 2006.

4. Digital Logic Design by Leach/Mal. (McGraw Hill), 2006.

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SEMESTER–II

ELECTRONICS (PRACTICAL) (203)

Time: 3 Hours & 30 Minutes **Marks: 20**

Note:

1. *Perform two experiments at least one from each section.*
2. *Minimum hours per week for practical 6.*

Section–A

1. To determine (1) z–parameters; (2) y–parameters; (3) h–parameters and (4) ABCD–parameters, of a two port resistive network.
2. To Study half–wave and full–wave rectifiers with and without filters.
3. To study transisters characteristics in common base and common emitter configuration.
4. To study the FET characteristics.
5. Transistors bias stabilization:– To familizarize with the method of stabilization of operating point of a transistor.

Section–B

1. To study the universality of Nand and Nor gates.
2. To form a half adder and a full adder using NAND gates and verify their truth tables.
3. To form a 2 bit comparator using NAND gates.
4. To demonstrate the operation Pb display BCD to seven segment display.

Books Recommended:–

1. Basic Electronics and Linear Circuits by N.N. Bhargava et. al (TMH, New Delhi).
2. Circuits and Systems by K.M. Soni (S.K. Kataria & Sons, New Delhi).
3. Digital Electronics Circuit and System by V.K. Puri (TMH, New Delhi).
4. Digital Design by M. Morris Mano (PHI, New Delhi).

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SEMESTER–I

AUTOMOBILE MAINTENANCE (VOCATIONAL)

Time: 3 Hours **Marks: 50**

Periods per week: Theory: 6

Instructions for the Paper Setters:

Question paper should be set strictly according to the syllabus and preferably in Punjabi.

The language of the paper should be straight and simple Punjabi.

Theory shall consist of three parts:

(a) Ten short compulsory questions requiring short replies of five lines each. Each question carries One mark. Total Marks: 10.

(b) Ten questions of six marks each giving to the points replies. Eight questions carrying twenty four marks will be attempted by the candidates. Total Marks: 24.

(c) Two questions of descriptive types to be attempted by the condidates out of set of four questions. Total Marks: 16.

Orientation of the Course:

Unit – I

General Introduction to the Automobile:

Introduction, Light commercial vehicle, Medium & Heavy Commercial vehicle, Main parts of Automobiles, Body, Chassis, Main parts of Chassis, classification of Chassis with respect to fitting of Engines, Wheel Base, Front overhang, Gear overhang, Wheel Track. Long Wheel–base chassis.

Unit – II

Shop Safety and Tools:

Safety in the shop. Safety rules. Measuring systems and measuring tools. Shop Hand Tools.

Unit – III

Frames:

Introduction, Types of Frame, Types of sections used in Frame, Chassis Repair. Frameless Integral frame, properties of body of Vehicle, Safety standards for vehicles. Accidental Repair Special tools used for Denting.

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SEMESTER–I

AUTOMOBILE MAINTENANCE (VOCATIONAL)

LAB–I

Time: 3 Hours **Total Marks: 50**

Period Per week Practical: 4 **External Marks: 30**

Internal Assessment: 20

Distribution of External Marks:

Three visits to Motor Workshop	–	5
Oral Examination	–	5
Written Test	–	5
Test of Workshop Jobs	–	5
Identification of workshop tools	–	5
Scale Instrument readings	–	5

Practical:

1. Engine dismentling and assembling.
2. Valve Timings.
3. Ignition Timings.
4. Injection Timings.

References:

1. Basic Automobile Engineering Written by CP Nakra (Punjabi Edition) Published by Dhanpat Rai and Sons, Jalandhar, Delhi.
2. Automotive Mechanics William H. Crouse. (English Edition) Donald L. Angkin Published by Tata McGraw–Hill Publishing Company Ltd., New Delhi.

SEMESTER – II
AUTOMOBILE MAINTENANCE (VOCATIONAL)

Time: 3 Hours **Marks: 50**

Periods per week: Theory: 6

Instructions for the Paper Setters:

Question paper should be set strictly according to the syllabus and preferably in Punjabi.

The language of the paper should be straight and simple Punjabi.

Theory shall consist of three parts:

(a) Ten short compulsory questions requiring short replies of five lines each. Each question carries One mark. Total Marks: 10.

(b) Ten questions of six marks each giving to the point replies. Eight questions carrying twenty four marks will be attempted by the candidates. Total Marks: 24.

(c) Two questions of descriptive types to be attempted by the candidates out of set of four questions. Total Marks: 16.

Orientation of the Course:

Unit–I

Automotive Engines, Engine fundamentals; Piston–Engine Operation, Engine Types Engine Constructions, Values and Values Trains Engine Measurements and performance.

Unit–II

Automotive Engine Systems; Automotive Engine fuels; Automotive fuel exhaust system; Automotive carburetors; Carbureted–Fuel–System service; Diesel Fuel–Injection Systems.

Unit–III

Operation and service; Engine lubrication System: Operation and service; Engine Cooling system; Cooling System Service.

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SEMESTER – II
AUTOMOBILE MAINTENANCE (VOCATIONAL)

LAB–II

Time: 3 Hours **Total Marks: 50**
Period Per week Practical: 4 **External Marks: 30**
Internal Assessment: 20

Distribution of External Marks:

Three visits to Motor Workshop	–	5
Oral Examination	–	5
Written Test	–	5
Test of Workshop Jobs	–	5
Identification of workshop tools	–	5
Scale Instrument readings	–	5

Practical:

1. Carburetor dismentling, cleaning and fault diagnosing.
2. Fuel Injection Pump timing with engine.
3. Injector O/H and Testing.
4. Water Pump cooling system and fault diagnosing.

References:

1. Basic Automobile Engineering Written by CP Nakra (Punjabi Edition) Published by Dhanpat Rai and Sons, Jalandhar, Delhi.
2. Automotive Mechanics William H. Crouse. (English Edition) Donald L. Angkin Published by Tata McGraw–Hill Publishing Company Ltd., New Delhi.

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SEMESTER–I

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

SCHEME

1. (a) Time Allowed

Theory: 3 Hours; Practical: 2 Hours

(b) Maximum Marks

Theory: Paper–A=30; Theory: Paper–B=30; Practical: 20

Internal Assessment: 20

2. Hours for Teaching the Subject: Theory: 6 Hrs.

Hours for Teaching the Subject: Practical: 4 Hrs. per week

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SEMESTER–I
REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
PAPER–A (THEORY)

Time: 3 Hours **Marks: 30**

Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry half marks i.e. (½ marks); total weightage of the section being 5 Marks.

Section–B: It will consist of short answer questions with answer to each question upto 1 page in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 2 marks; total weightage of the section being 10 marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry 7.5 marks; total weightage of the section being 15 marks.

Unit–I

Introduction: Basic concepts & definition Thermodynamics, System properties State process, Cycle, pressure, density specific volume. First & Second law of Thermodynamics, Processes, Constant volume, constant pressure, isothermal & isotropic etc.

a) **Work & Heat:** Work, power & energy Heat, sp. Heat, sensible heat Latent Heat of vapour & fusion specific Heat of gases & Units of Heat.
b) **Elementry Heat Transfer:** Conduction operation, Radiation, Thermal conductivity & phase.

Unit–II

Refrigeration: Terminology of Refrigeration; Definition of "TON" as applied to refrigeration. Methods of Refrigeration & applications, Definitions of C.O.P.; Refrigeration effect & work Input.

Refrigerants: Introduction, classification of Refrigerant, proporties of Important Refrigerants as (R–II, R–12, R–22, NH3 etc.) Secondary, Refrigerants & brines antifreozer solutions, selection of Refrigerant for required purpose.

Unit–III

Effect of Refrigerants on Environment: Introduction regarding Environmental friendly refrigerants.

SEMESTER–I
REFRIGERATION & AIR CONDITIONING (VOCATIONAL)
PAPER–B (THEORY)

Time: 3 Hours **Marks: 30**

Instructions for the Paper Setters:

Section–A : It will consist of 10 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry one & half marks i.e. (½ marks); total weightage of the section being 5 Marks.

Section–B: It will consist of short answer questions with answer to each question upto 1 page in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 2 marks; total weightage of the section being 10 Marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry 7.5 marks; total weightage of the section being 15 Marks.

Unit–I

Vapour Compression System: Introduction, vapour compression cycle on PV.Ts & PH diagrams. Simple calculations on work done, C.O.P. etc.

Unit–II

Factors affecting the performance of vapour compression system, cycle description, C.O.P. Sub cooling super Heating, Multistage cascade system. Non–idealities, effects of pressure drop & non–isontropic compression. Calculation of ref. effect, power.

Unit–III

Vapour Absorption System: Simple absorption cycle, analysis with NH3–Water or Lithium bromide, C.O.P. use of Charts, Electral use system. Comparison of Vapour Compression with Z Vapour absorption system.

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SEMESTER–I

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

PRACTICAL: LAB–I

Time: 2 Hours

Period Per week Practical:4

Total Marks: 40

External Marks: 20

Internal Assessment: 20

List of Experiments:

1. To study the basic tools eg. spanners, cutting & Throading tools, bending tools etc.
2. Bending of tubes of diff. sizes.
3. Soldering, brazing & pinching of tubes.
4. Cutting of G.I. & Copper tubes.

List of Reference Books:

1. Ref & AC S. Domkundwar Dhanpat Rai

2. Ref & AC S.C. Arora —do—

3. A Course in P.L. Batlaney Khanna Ref. & A.C. M. Singh Khurmy Publishers Royal Pub.

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SEMESTER–II
REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

SCHEME

1. (a) Time Allowed

Theory: 3 Hours; Practical: 2 Hours

(b) Maximum Marks

Theory: Paper–C=30; Theory: Paper–D=30; Practical: 20

Internal Assessment: 20

2. Hours for Teaching the Subject: Theory: 6 Hrs.

Hours for Teaching the Subject: Practical: 4 Hrs. per week

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SEMESTER–II
REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

PAPER–C (THEORY)

Time: 3 Hours **Marks: 30**

Instructions for the Paper Setters:

Section–A : It will consist of 10 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry half marks i.e. (½ marks); total weightage of the section being 5 Marks.

Section–B: It will consist of short answer questions with answer to each question upto 1 page in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 2 marks; total weightage of the section being 10 Marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry 7.5 marks; total weightage of the section being 15 Marks.

Unit–I

Air Refrigeration System: Introduction, Reuersed carnot cycle. Reuersed Brayton or Belt Coleman cycle & their C.O.P. Advantages & disadvantages of air.

Unit–II

Electrical Aspects of Refrigeration and Air Conditioning: Concepts of volt, current, power A.C. & D.C. Operations, code & electrical wiring for practice, Instruments for voltage, current & resistance measurements. Single phase motors: Starting, running & Winding current & voltage thermal relays, solenoid values.

Unit–III

Electrical Wiring & Electrical Circuit of Following: Refrigeration, Air Conditioner & Water Cooler.

SEMESTER–II
REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

PAPER–D: (THEORY)

Time: 3 Hours **Marks: 30**

Instructions for the Paper Setters:

Section–A : It will consist of 10 very short answer questions with answer to each question upto five lines in length. All questions will be compulsory. Each question will carry half marks i.e. (½ marks); total weightage of the section being 5 Marks.

Section–B: It will consist of short answer questions with answer to each question upto 1 page in length. Eight questions will be set by the examiner and 5 will be attempted by the candidates. Each question will carry 2 marks; total weightage of the section being 10 Marks.

Section–C: It will consist of essay type question with answer to each question upto 5 pages in length. Four questions will be set by the examiner & candidates will be required to attempt two. Each question will carry 7.5 marks; total weightage of the section being 15 Marks.

Unit–I

Air Conditioning Cycle: Psychrometric Processes: Sensible cooling, heatix, dehumidification / humidification etc.Thermal comfort, standard conditions & ventilation Requirements. Types of air conditioning system Direct Expansion, chilled Water Window cycle, package air conditioning split units & conts of plants.

Unit–II

Components of Air Conditioning: chillers, coils, blowers, ducts distributor & pumps.

Unit–III

Measuring Instruments: Fundamental & Concepts & Principles Ohm's Law measuring instruments as multimeter, Megger.

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SEMESTER–II

REFRIGERATION & AIR CONDITIONING (VOCATIONAL)

PRACTICAL: LAB–II

Time: 2 Hours

Period Per week Practical: 4

Total Marks: 40

External Marks: 20

Internal Assessment: 20

List of Experiments:

1. To make diff. types of joints with help of elbows. T's socket etc.
2. To study different types of comp. eg open & sealed type.
3. To study different types of condensers eg. Air cooled & Water cooled.
4. To study the various types of expansion devices. Capillary tube Exp. Values. Thermostatic Exp. value.

List of Reference Books:

1. Ref & AC S. Domkundwar Dhanpat Rai

2. Ref & AC S.C. Arora —do—

3. A Course in P.L. Batlaney Khanna Ref. & A.C. M. Singh Khurmy Publishers Royal Pub.

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SMESTER–I
ECONOMICS

MICROECONOMICS

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper–Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Introductory: Definition of economics, Adam Smith, Marshall, Robbins, Nature and scope of microeconomics. Basic concepts: Human wants, utility and satisfaction, basic economic problems.

Unit–II

Demand function; supply function, Price determination, Slope and Elasticity, Elasticity of demand–price, income and cross and their measurement.

Unit–III

Theory of demand and consumer behaviour: Utility analysis and indifference curve analysis, Revealed preference analysis and their comparison.

Unit–IV

Theory of Production and Costs : Concept of production function. Laws of returns to scale and law of variable proportions and their compatibility.
Cost : Traditional and Modern costs theory concepts and costs curves in the short and in long run.

Recommended Texts:

1. R.G. Lipsey: Introduction to Positive Economics, EL BS, London, 1969.
2. Stonier & Hague: A Text Book of Economics Theory, 9th Ed., ELBS, London, 1973.
3. Paul Samuelson: Economics, Mcgraw Hill, Kogakushad, Tokyo, 1973.
4. N.C. Ray: Microeconomic Theory, Macmillan, Delhi, 1975.
5. D. Salvatore: Microeconomics.

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SMESTER–II
ECONOMICS

INDIAN ECONOMY

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper–Setters/Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Nature of Indian Economy, Agriculture in India: Nature and importance of agriculture, causes of backwardness and low productivity. Green revolution and new agricultural strategy, Land Reforms: Need, implementation and critical evaluation, WTO and Indian agriculture.

Unit–II

Industry: Problems of industrial development, public sector and private sector, privatization of public sector enterprises: the disinvestment programme, role of small and large scale industries. Latest Industrial Policy.

Unit–III

Indian Taxation System. Foreign trade: direction and composition of exports and imports and changes therein since independence, recent foreign trade policy, Balance of payment problems. Foreign aid and role of multinational corporations in India.

Unit–IV

Features of population growth in India, Major problems of the economy – unemployment, poverty, inequality and inflation.
Planning–objectives, strategy, evaluation of planning in India, a brief idea of objectives, targets, resources of the Eleventh Five Year Plan (2007–12).

Recommended Texts:

1. Mishra and Puri: Indian Economy, Himalaya Publication House, Mumbai, 2003.
2. Rudder Dutt and Indian Economy (Latest), S. Sundharam Chand & Co. Ltd., New Delhi, 1998.
3. A.N. Aggarwal: Indian Economy, Vikas Publications, Delhi, 1975.
4. C.D. Wadhwa: Indian Economic Policy (1980), Tata McGraw Hill, Bombay, 1973.

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SEMESTER–I
INDUSTRIAL ECONOMICS

INDUSTRIAL ECONOMICS–I

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Nature, scope and subject matter of Industrial Economics; concept and organization of the firm; optimum firm.

Unit–II

Market Structure: Meaning and measurement: Sellers' concentration and product differentiation; Market structure, firm size and profitability.
Market Conduct: Product pricing – Theory and evidence; merger and diversification.

Unit–III

Market Performance: Growth of the firm and its constraints; size, growth and profitability.

Unit–IV

Process of Industrialization: Rationale, objectives, strategies and policies with reference to Indian industrial development and policy.

Recommended Texts:

1. Barthwal, R.R.: Industrial Economics: An Introductory Text, Wiley Eastern Limited, New Delhi, 1984.
2. Devine, P.J. et al: An Introduction to Industrial Economics, George Allen Unwin Ltd., London, 1976.
3. Hay, D.A. and D.J. Morris: Industrial Economics: Theory and Evidence, Oxford University Press, London, 1979.
4. Harndeen, J.B.: Economics of Corporate Economy.
5. Writes, P.J.D.: Price, Cost and Output.
6. Kirkpatrick, C.M. et al.: Industrial Structure and Policy in Less Developed Countries, N.Lee and F.L. Ninson, Heritage, New Delhi, 1985.
7. Kelkar, V.L. and V.V. Bhanoji Rao: Indian Development Policy Imperatives.

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SEMESTER–II
INDUSTRIAL ECONOMICS

INDUSTRIAL ECONOMICS–II

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Industrial Relations: Concept, approach and organisation.
Theory of Industrial Relations: Dunlop's industrial relation system; Classical Marxist Theory; human relation theory; Pluralism and radical approach.

Unit–II

Growth, pattern and structure of labour unions in India–achievements and failures.
Nature and Causes of industrial disputes–settlement and prevention mechanism; Role of tripartism.

Unit–III

Collective Bargaining: Theories, types and role; current trends in collective bargaining.

Unit–IV

Labour legislation in India with reference to Trade Union Act, 1926; Industrial Disputes Act, 1947, and their contemporary relevance since labour market reforms.

Recommended Texts:

1. Giri, V.V.: Industrial Relations, N.M. Tripathi Asia Publications, Bombay, 1972.
2. Memoria. C.B.: Dynamic of Industrial Relations in India, Himalaya Publishing House, Bombay, 1983.
3. Myers, C.A.: Industrial Relations in India, Asia Publishing House, Bombay, 1970.
4. Ramaswamy, E.A. and U. Ramaswamy: Industrial Relations in India, Macmillan, Delhi, 1978.
5. Punekar, SD.: Labour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishers, Bombay, 1978.
6. Rees, A: Economics of Work and Play.

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SEMESTER–I

QUANTITATIVE TECHNIQUES–I

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Solution of linear equations, solution of simultaneous linear equations (upto two variable case), Application of linear equation in economics, Solution of quadratic equations. Series: Arithmetic progression series, geometric progression series and their applications in economics.

Unit–II

Elements of Analytical Geometry: Straight line; Economic applications of straight line. Concept of permutation and combination, Elements of set theory, union, inter–section, difference, symmetric difference, complementation, Venn diagrams.

Unit–III

Concept of constant, variable, concept of functions, classifications of functions, graph of linear and quadratic functions.
Limits and continuity of a function (Excluding Trigonometric and Inverse functions). Concept of differentiation (ab–intio principle).

Unit–IV

Derivatives (Excluding Trigonometric and Inverse functions), theorems of derivatives, functions of functions rule, derivatives of implicit functions.

Parametric functions and their derivatives, exponential functions, logarithmic functions, successive derivatives.

Books Recommended:

1. Monga, G.S.: Mathematics and Statistics for Economics.
2. Yamane, Taro: Mathematics for Economists.
3. Allen, R.G.D.: Mathematical Analysis for Economists.
4. Edward T Dowling: Introduction to Mathematical Economics.

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SEMESTER–II

QUANTITATIVE TECHNIQUES–II

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Statistics, definition, scope in economics, significance, limitations. Tabulation of data, graphical representation of data: Pie Chart, Leaf & Stem diagram etc.

Unit–II

Measures of central tendency: Mean, Median & Mode, measures of relative dispersion, measures of skewness and kurtosis.

Unit–III

Correlation Analysis: Introduction, significance, Karl–Pearson's coefficient of correlation, probable error, Spearman's rank correlation coefficient, simple regression analysis; Difference between correlation and regression, lines of regression, relationship between correlation coefficients and regression coefficients.

Unit–IV

Index Numbers: Concept of index number, purpose construction & problems, Laspeyre, Paache and Fisher formulae, test of consistency, concept of consumer price index & whole sale price index.

Analysis of Time Series: Definition, components of time series, measurement of trend by different methods, measurement of seasonal variations.

Books Recommended:

1. Gupta, S.P.: Statistical Methods (1981).
2. Croxton, Cowden & Klein: Applied General Statistics (1973).
3. Ya–lun–chou: Statistical Analysis (1975).
4. Kapur and Sexena: Mathematical Statistics (1970).
5. Murry, R. Speigal: Theory and Problems of Statistics (1972).

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SEMESTER – I
AGRICULTURAL ECONOMICS & MARKETING

AGRICULTURAL ECONOMICS

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Agriculture in a Growing Economy: changing importance of agriculture, inter–dependence between agriculture and industry; role of agriculture in economic development.

Unit–II

Farming Systems: traditional, subsistence, commercial, cooperative, collective and state farming, corporate farming, contract farming.

Unit–III

Economics of Agricultural Production: Relation between factor–product, product–product and factor–factor, farm size productivity in Indian Agriculture.

Unit–IV

Agricultural Growth in India: Inter–regional variations in growth in output and productivity.
Performance of Punjab Agriculture: cropping pattern, mechanization and problems in agriculture.

Suggested Readings:

1. Southworth, N, and A. Johnston (1967), Agricultural Development and Economic Growth, Cornell University Press.
2. Dantwala, M.L. (1986), Agricultural Growth in India, Indian Society of Agricultural Economics, Bombay.
3. Bhardwaj, K. (1984), Production Conditions in India Agriculture, Cambridge University Press.
4. Memoria, C.B. (1985), Agricultural Problems of India, Kitab Mahal.
5. Eichher, C. and L. Wilt (ed.) (1964), Agriculture in Economic Development, McGraw Hill, London.
6. S.S. Johl & T.R. Kapur, Fundamentals of Farm Business Management.
7. A.S. Kahlon & Karam Singh, Principles of Farm Business Management.
8. Agriculture Economics by R.K. Lekhi and Joginder Singh, Kalyani Publishers 1996.

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SEMESTER – II
AGRICULTURAL ECONOMICS & MARKETING

AGRICULTURAL MARKETING

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

(i) First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.

(ii) Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Marketing : Definition, scope, product, production, selling and marketing concepts, marketing efficiency, farmers and marketing.

Unit–II

Consumer–market and buying behaviour, trends in population and income distribution variations in food consumption, market segmentation, market integration, market consideration.

Unit–III

Agricultural production in India : Farm size, land utilization and cropping pattern, characteristics of producer and production.
Variations in production–seasonal, annual and geographic Marketed and marketable surplus.

Unit–IV

Agricultural Marketing in India, structure, type and defects, marketing function, processing and standardisation, grading, transportation, distribution and storage, marketing agencies.

Suggested Readings:

1. Cundiff, Still & Goveni, Fundamentals of Modern Marketing.
2. Memoria, C.B., Agricultural Problems of India.
3. Bansil, P.C., Agricultural Problems of India.
4. Rudder Dutt and Sundram, Indian Economy.
5. Indian Council of Agricultural Research, Handbook of Agriculture.
6. S.S. Acharya Marketing of Farm Products.
7. Fundamentals of Agri. Economics, Sadhu & Singh, Himalyan Publishers House, 1996.

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SEMESTER–I

RURAL DEVELOPMENT–I

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

1. First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
2. Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Conceptional: Sociology as a study of social groups, Relationships, Institutions and culture, Rural urban differences.

Unit–II

Caste, its features, functions, theories of its origin and intercaste relations.

Unit–III

Family types, functions and changing patterns. Marriage, its forms, functions and features like bride/ bridegroom price, extravagance etc.

Unit–IV

Political structures; structures and functions of traditional and enacted panachayats.

Suggested Readings:

1. Hutton, J.H. Caste in India, Oxford University Press, Bombay.
2. Mandelbaum, D.G. Society in India, Popular Prakashan, Bombay.
3. Jammu, P.S. (Ed). Pendu Punjab Vich Samajik Parvartan, Punjabi University, Patiala.
4. Swinderjit Kaur. Samaj Vigyan Nal Jan Pachhan, Punjabi University, Patiala.
5. Baldev Singh (tr.) Samaj Vigyan, Punjabi Univeristy, Patiala.

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SEMESTER–II

RURAL DEVELOPMENT–II

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters / Examiners:

1. First question consisting of 10 short answer type based upon the entire syllabus, (each carrying 2 marks) will be compulsory.
2. Students will attempt 1 out of 2 questions from each of the four units (20 marks each).

Unit–I

Rural Development; Concept and Objectives; Rural Development since Independence; Community Development Programme (C.D.P.), National Extension Service (N.E.S.), High Yielding Varieties Programme (H.Y.V.P.), Intensive Agricultural District Programme (I.A.D.P.).

Unit–II

Small Farmers Development Agencies (S.F.D.A), and Marginal Farmers and Agricultural Labour Agencies (M.F.A.L.A.). Integrated Rural Development Programme (I.R.D.P.), Training of Rural Youth for Self Employment (TRYSEM), National Rural Employment Programme (N.R.E.P.), National Rural Employment Guarantee Act (NREGA).

Unit–III

Organisation Set up : Ministry of Rural and Agriculture Development at the Central Level Planning and Planning Machinery, Deptt. of Agriculture and Rural Development at the State level.

Unit–IV

Panchayti Raj : Rural Development, District Administration and Rural Development. Planning at local level, Role of Block Development Officers in rural development.

Books Suggested:

1. Sharma, S.K.: Rural Development Approach Perspective and Strategy, Abhinav Publications, New Delhi.
2. Mehta, S.R.: Rural Development Policies and Programmes.
3. Jain, S.C.: Community Development and Panchayati Raj in India, NIRD Publications, Hyderabad.
4. Raw, S.K.: Rural Development in India, Some Factors in India, NIRD Publications, Hyderabad.
5. Puri, K.K. and: Local Government in India, Bharat G.S. Brown Pakistan, Jalandhar.

B.A./B.Sc. (Semester System) (12+3 System of Education)

(Faculty of Economics & Business)

SEMESTER – I

OFFICE MANAGEMENT AND SECRETARIAL PRACTICE (VOCATIONAL)

TYPEWRITING

Total Marks: 100

Time: 3 Hours **Theory Marks: 40**

Practical Marks: 40

Internal Assessment: 20

PART–I

Typewriter and its maintenance:

Typewriter – Its use and importance a standard typewriter.

* Makes and categories of typewriter.
* Essential parts of a typewriter and their use.
* Care and upkeep of a typewriter.
* Ribbon changing and ribbon economy.
* Methods of typewriting.
* Touch
* Sight

Approach of typing:

* Horizontal
* Vertical
* Keyboard operation
* Need for proper type and size of tables and chairs for use by typist
* Sitting postures
* Material required
* Insertion and removal of paper
* Learning and second row (Home row) (guide keys and home keys).
* Learning the third row (upper–row)
* Learning the first row (bottom row)
* Learning the fourth row (number row)
* Special signs and symbols in the keyboard and their uses.

PART–II

Display in typewriting:

* Centering – horizontal, vertical.
* Types of headings.
* Use of punctuation marks
* Figures – Arabic and Roman
* Paragraphs – type and styles, numbering, pagination. Styles of typing different kinds of letters.
* Arrangement of tabular statements.
* Syllabification.
* Foot notes.

B.A./B.Sc. (Semester System) (12+3 System of Education)

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SEMESTER–I
OFFICE MANAGEMENT AND SECRETARIAL PRACTICE (VOCATIONAL)

PRACTICAL

Marks: 40

Key Board Operations:

1. Practising second row, third row, first row and fourth row.
2. Practising words, sentences, paragraphs and passages.
3. Use of shift keys and other non–character keys.
4. Typewriting of special symbols of the Key Board and punctuation marks.

Speed Building:

1. Different kinds of drills for typing.
2. Graded speed test leading to accurate speed of about 30 w.p.m.
3. Typing of passages each containing 300 words in ten minutes.

Teaching Guidelines:

Alternative and hand words, balanced handwords, same letters in different words, drills of common words, drills of alphabetical sentences and words division drills.

Display Techniques:

1. Centering – Horizontal and Vertical.
2. Ensuring proper margins, line spacing.
3. Typing different types of heading including spaced heading.

Letter Typing:

1. Typing exercises of personal, official and business letters in different styles with proper display.
2. Typing of applications for jobs.
3. Addressing the envelopes.
4. Using carbon papers for taking out multiple copies.

SEMESTER–II
OFFICE MANAGEMENT AND SECRETARIAL PRACTICE (VOCATIONAL)

SHORTHAND (ENGLISH ONLY)

Time: 3 Hours

Total Marks: 100
Theory Marks: 40
Practical Marks: 40
Internal Assessment: 20

Part–I

Introduction:
Origin of shorthand, with particular emphasis on Pitman shorthand, definition and importance of stenography; qualities of a successful stenographers, writing techniques and materials.

Consonants:
Definition, number, forms, classes, size thiness, thickness, directions and joining strokes.

Vowels, Dipthongs and Diphones:
Vowels—definition, number, sounds, signs, places position of outlines, intervening vowels.
Introduction of upwards downwards strokes in stenography.
Dipthongs—definition, names, signs, placed, joined dipthongs and triphones.
Diphones—definition, signs and application.
Use of vowels dipthongs and diphones in plural in stenography.

Grammalogues and Phonography:
Grammalogues—definition of grammalogues and lopogram, list of grammalogues, punctuation signs, definition of phrase, how a phrase is written, qualities of good phraseogram, list of simple phrases.

Part–II

Circles, loops and hooks:
Circle and loops—size and direction, application in Phraseography, attachement with straight and curved strokes, exception to the use of circle, loops; size and direction.
Initial of final Hooks–Size & Direction. Application in Phraseology. Attached with straight & curve strokes and their uses with the circles & loops.

Shorthand (Practicals):

1. Repeated practice of consonants, writing each consonant from the text materials with particular attention to their formation, length, angle, size and direction.
2. Repeated practice of vowels, dipthongs, diphones and triphones by copying the text materials and other printed shorthand book and reading the same book.
3. Repeated practice of grammalogues and phrases.
4. Repeated practice on the use of circle, loops and books.
5. Transportation from shorthand into long hand.
6. Dictation from unseen passage.
7. Variety of drills: Reading shorthand from black – board, copying shorthand from black board, cold note reading, delayed writing, students dictate to the class room from shorthand books, two minutes speeches by students, reading printed shorthand matter.

Probable work sites where On the Job Training may be organized:

i) Government Department Offices.
ii) Business/Commercial Organisation.
iii) Industrial Establishments.
iv) Hospitals.
v) Educational Institutions.
vi) Railways, Airlines and other Transport undertakings.
vii) Banking and Insurance Organisation.
viii) Parliament and State Assemblies.
ix) Job work Canters.

This is a tentative list. Principal may be given the complete freedom to select any organisation. However, while selecting the institution, care should be taken to select such institution who show willingness to accept the trainees and have the scope for providing variety of experiences in Office Practice and Stenography area.

Suggested Departments/Section for 'On–the–Job Training' at the end of first year.

Department/Section No. of Weeks

1. Reception /Inward and Outward mail 1
2. Office establishment/filling/office equipment and production 1
3. Stenography work and typing with various executives and section 1
4. Sales, Advertising and Publicity, Stores and Accounts 1

4 Weeks

Suggested Department/Section for the 'On the Job Training' at the end of Second Year.

Department/Section No. of Weeks

1. Private Secretaries of various executives in different Department of the Organisation 1
2. Office establishment/Company Secretary Share Department 1
3. Accounts Department/Time Office/Reception 1
4. Typing Pool/Advertising/Publicity 1

4 Weeks

Note: The purpose of the On–the–Job Training is to expose the student to the world of work and provide professional experience in real situation. The student shall have to maintain a diary and submit a detailed report of his activities which shall be certified by a responsible officer of the establishment. However, the teacher will also supervise the 'On–the–Job Training' programme.

Suggested Reading Materials:

a) Shorthand:

Title Publisher:

1. Pitman Shorthand Dictionary A.H. Wheeler & Company.
2. Pitman Shorthand Reading Pitman Shorthand Schools, and Dictation Exercises New Delhi.
3. Shorthand made O.P. Kuthiall easy for beginners with key.
4. How to start shorthand –do– & Edger Thrope Speed building.
5. How to avoid confusion –doin outline in pitman shorthand.
6. A Compelesive List of grammar Languages – & Contractions O.P. Kuthiall.
7. H.A. Mehta Typewriting Mehta Publishing complete course Corporation, Basant Mahal. Wadala (East) Bombay–4000037.
8. H.A. Mehta Typewriting Mehta Publishing Office Practice set Corporation, Basant Mahal. Wadala (East) Bombay–4000037.
9. H.A. Mehta Business Mehta Publishing Letter typing sets Corporation, Basant Mahal. Wadala (East) Bombay–4000037.
10. Typewriting by Md. Khan Chittoor Publishing Dictation Exercises House, Chittoor, A.P.
11. Layouts and Forms in State Board of Technical Typewriting Education, Hyderabad – 500022.
12. 20th Century Typewriting South–Western Publishing Company, Gincinati, Ohio, USA.
13. Typewriting Drills for speed Gregg. Publishing and accuracy Corporation, USA.
14. Principles of Typewriting D.P. Bhatia, S.S. Sangal .
15. Typewriting speed & O.P. Kuthiall & Thorpe Accuracy.
16. Typewriting Theory Practicals R.C. Bhatia.
17. Type writing speed & O.P. Kuthiall Accuracy–B–I.
18. Type writing speed & –do–Accuracy–B–II.

a) Office Practice:

1. Office Practice Made Simple by G. Whitehead, 1974 W.H. Allen Publishers.
2. Office Management and by Balraj Duggal, 1998 Commercial Correspondence Published by Kitab Mahal.
3. Office Management and Gyan Publishing House, Secretarial Practice by Delhi, V.P. Singh.
4. Business Correspondence Thakkar Publication, and Office Practice by Bombay, Nagamia and Bhai.
5. Business Communication by Seth Publication, Doctor & Doctor Bombay – 4.
6. Commercial Correspondence by Majumdar.
7. Modern Commercial by R.S. Sharma Correspondence.
8. Modern Commercial by Chandgadkar & Tele Correspondence.
9. Secretarial Practice by Vikas Publications Pune. H.A. Mehta and others.

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SEMESTER–I
TRAVEL & TOURISM

FUNDAMENTALS OF TRAVEL AND TOURISM

Time: 3 Hours **Max. Marks: 100**

Instructions for the Paper Setters:

Section–A: The examiner will set 12 short questions, 3 questions from each section of 02 marks each. The candidate will have to attempt 10 questions out of 12 questions. **(10x2=20 Marks)**

Section–B: The examiner will set 8 long questions, 2 questions from each section of 20 marks each. The candidate will have to attempt 4 questions out of 8 questions. **(4x20=80 Marks)**

Unit–I

Chapter 1. Conceptual Framework of Tourism

Travelers, excursionist, tourists/visitors.

Tourism and tourist – domestic and internaitonal.

The dynamics of definitions.

Chapter 2. Tourism Product and its Characteristics

Tourism through the ages.

Tourism as a product

Characteristics of tourism

Unit–II

Chapter 3. The Construct of Tourism

Notion of Tavel in historical imagination

Types and forms of tourism

Motivations for tourism.

Chapter 4. Objects of Tourism

Tourism as an object of pleasure–Scenic beauty, health and leisure.

Tourism as a preserver of heritage–Historical and religious sites.

Tourism as an object of culture–Holiday seasons,

Tourism as a social habit.

Tourism as a means of globalization–Theme of integration and identity.

Unit–III

Chapter 5. Issues and Problems (1)

Infrastructure and super–structure.
Levels of Study.
Global; International concerns, problems and organizations–WTO, IATA and ICAO

Chapter 6. Issues and Problems (2)

Macro: National concerns and problems and oganizations–Ministry of Tourism and ITDC.
Meso: Local concerns and problems.
Micro : Enterprise level concerns and problems.

Unit–IV

Chapter 7. Positive Effects of Tourism

Integrational
Nation building – appreciation of language, dress, food and Customs.
Information flows – travelogues.
Removal of barriers – flow of goods.

Chapter 8. Negative Effects of Tourism

Conflicts – cultural shock.
Ecological degradation.
Dangers to protected archaeological sites
Interference in wildlife habitat
Social effects on the residents of tourist places

Suggested Readings:

- Burkart, A.J. & Medlik, S.: *Tourism: Past, Present and Future,* Heinemann Professional Publishing, London, 1986 reprint.
- Mill, Robert and Christie & Morrison Alastair M.: *The Tourism Systems: An Introductory Text,* Prentice–Hall International, London, 1992.
- Holloway, Christopher – J.: *The Business of Tourism,* Pitman Publishing, London, 1989.
- Kamra, Krishan, K & Chand, Mohinder: *Basics of Tourism: Theory Operation and Practice,* Kanishka Publishers, New Delhi, 2002.
- Bhatia, A.K. : *Tourism Development: Principles and Practices,* Sterling, New Delhi, 1995.
- Foster, Douglas, *Travel and Tourism Management,* Macmillan, 1985.
- *IITTM Growth of Modern Tourism – Monograph,* IITTM, New Delhi, 1989.
- *IITTM Tourism as an Industry,* IITTM, New Delhi, 1989.
- Wahab, S.E., *Tourism Management,* Tourism International Press, London, 1986.
- Gupta I.C., *Tourism Products of India,* Indore, 1995. Kasbekar Sushma.
- Singh, Ratandeep *Tourist India: Hospitalities Services,* Kanishka, New Delhi, 1996.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–II

TRAVEL & TOURISM

INDIAN HERITAGE AND TOURIST RESOURCES

Time: 3 Hrs. **Max. Marks: 100**

Instructions for the Paper Setter:

Section–A: The examiner will set 12 short questions, 3 questions from each section of 02 marks each. The candidate will have to attempt 10 questions out of 12 questions.
(10x2=20 Marks)

Section–B: The examiner will set 8 long questions, 2 questions from each section of 20 marks each. The candidate will have to attempt 4 questions out of 8 questions.
(4x20=80 Marks)

Unit–I

Chapter 1. Geography and Tourism

Physical features of Indian subcontinent.

Climatic conditions of India.

Chapter 2. Natural Resources and Tourism

Wildlife Sanctuaries: Jim Corbett Tiger Reserve,

Bharatpur Bird Sanctuary

National Parks and Natural Reserves of India: Valley of Flowers, Kanha, Kaziranga, Ranthambhore.

Unit–II

Chapter 3. Architectural Heritage.

Overviews of Ancient, medieval and modern forms of architecture.

Chapter 4. Important Monuments.

Stupa at Sanchi, Brihadeshwara Temple (Tanjore),

Red Fort (Delhi), Taj Mahal (Agra), Lutyen's Delhi,

Lotus Temple (Delhi).

Unit–III

Chapter 5. Performing Arts

Schools of painting.
Classical dances and dance styles
Folk dances.
Schools of music.
Musical instruments.

Chapter 6. Handicrafts and Handlooms

Types of Handicrafts and Handlooms in India.
Major Fairs for Promotion of Handicrafs and Handlooms–Dilli Haar, Central Cottage Industries Emporium, Fab India.

Unit–IV

Chapter 7. Fairs and Festivals

Traditional : Kumbha, Pushkar, Chhatha, Pongal, Holi, Onam, Durga Puja, Ramalila, Diwali, Dashahara (Kullu), Rathyatra, Id–ul–Fitr. Muharram, Christmas.
Modern: Carnival (Goa), Ganga Mahotsava, Taj Mahotsava, Khajuraho Mahotsava and Desert Festival.

Chapter 8. Hill Stations and Coastal Tourism

Major Hill Stations: Shimla, Darjelling, Ooty, Gangtok, Gulmarg, Ladhak, Kodikannal
Coasts and Beaches: Beaches of Andaman & Nicobar Islands, Marina Beach (Chennai), Konark Beach (Orissa), Juhu Beach (Mumbai).

Suggested Readings:

- Harle, J.C., *The Art and Architecture of the Indian Subcontinent,* Penguin Books, 1990.
- Brown, Perey, *Indian Architecture (Buddhist and Hindu) and (Islamic Period)*, Bombay, 1942 and Calcutta, 1942 respectively.
- Basham, A.L., *The Wonder that was India,* Rupa and Co., Delhi, 1988.
- Westlake, Graeme, D., *An Introduction to the Hill Stations of India,* Harper Colins Publishers, India, 1993.
- Mishra, Lavkush, *Cultural Tourism in India,* Mohit Publications, New Delhi, 1999.
- Day, C.R., *The Music and Musical Instruments of Southern India and the Deccan,* Delhi, Reprint, 1990.
- Rele, Kanak, *Indian Classical Dances and the Seven Classical Dance Styles,* A Video Film; Handbook of Indian Classical Dance Terminology, Bombay, 1992.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Economics & Business)

SEMESTER–I

TOURISM AND HOTEL MANAGEMENT (VOCATIONAL)

Time: 3 Hours **Total Marks: 100**
Theory Marks: 80
Internal Assessment: 20

Instructions for the Paper Setters:

Section–A: It will consist of 8 very short answer questions with answers to each questions up to five lines in length. All questions will be compulsory. Each question will carry two marks; total weightage being 16 marks.

Section–B: It will consist of short answer questions with answer to each question upto *two pages* in length. Twelve questions will be set by the examiner and eight will be attempted by the candidate. Each question will carry four marks. The total weightage of the section shall being 32 marks.

Section–C: It will consist of essay type questions with answers to each question upto 5 pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will carry 16 marks: total weightage of the section being 32 marks.

Introduction: This paper is for the basic understanding of Tourism and Hospitality Industry and Hotel Management. Relationship between Tourism, Airlines and hospitality Industry and for the basic understanding of Hotel Management.

(I) Evolution of Hospitality Industry in India and Abroad.

a) Accommodation and its types

b) Star categorization of Hotels

(II) Four subject of Hotel Management

a) Front Office:

i. Layout of front office and their importance i.e. reservation, reception, concierge, bell desk, lobby, telephone, cashier.
ii. Qualities of front office staff.
iii. Department front office coordinates with.
iv. Main functions of front office.

1. Information
2. Reservation
3. Reception

b) House Keeping:

i. Introduction.
ii. Layout of housekeeping department.
iii. Organisation of housekeeping department.
iv. Job description and qualities of house keeping staff.
v. Departments that house keeping coordinates with.
vi. Rooms and floors–Practices and procedures

1. Briefing and scheduling of staff
2. Knowledge of rooms
3. Rules on a guest floor
4. Cleaning of rooms
5. Preparing a room report
6. Housekeeping control desk

c) Food and Beverages Production:

i. Definition of 'food technology'
ii. Aims and objectives of cooking food
iii. Cooking materials/ingredients
iv. Methods of cooking foods
v. Spices used in Indian and western cooking
vi. Principles of food storage.
vii. Planning of meals
viii. Preservation of food

d) Food and Beverage Service:

i. History of Indian catering
ii. Food and beverage outlets
iii. Classification of catering operations
iv. Restaurant organization
v. Service staff behaviour and standards
vi. Table layout and table manners
vii. Rules for waiting at table
viii. Forms/types of catering establishments i.e
    1. Commercial (non residential & residential)
    2. Welfare (industrial/institutional)
    3. Transport (Air, Road, Rail, Sea)
ix. Origin of menu and menu planning objectives and types of menu

Note:

i. The Internal Assessment shall be based on periodical tests, written assignments, presentations, classroom attendance and participation.
ii. One tour/summer training is compulsory every year of which the students shall prepare *"A Tour Report",* This report shall be evaluated by the examiner and shall given grades A, B & C.

C. **Training: One Month**

During the summer vacation one month training is a must and the internal assessment may be given the due weightage based on the training part of the candidate. Theory will be of 80 marks and internal assessment based on the training part will carry 20 marks.

B.A./B.Sc. (Semester System) (12+3 System of Education)

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SEMESTER–II

TOURISM AND HOTEL MANAGEMENT (VOCATIONAL)

Time: 3 Hours **Total Marks: 100**

Theory Marks: 80

Internal Assessment: 20

Instructions for the Paper Setters:

Section–A: It will consist of 8 very short answer question with answers to each question up to five lines in lengt h. All questions will be compulsory. Each question will carry two marks; total weightage being 16 marks.

Section–B: It will consist of short answer questions with answer to each question upto *two pages* in length. Twelve questions will be set by the examiner and eight will be attempted by the candidate. Each question will carry four marks. The total weightage of the section shall being 32 marks.

Section–C: It will consist of essay type questions with answers to each question upto 5 pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will carry 16 marks: total weightage of the section being 32 marks.

i) The maximum marks are 100 of which 80 marks shall be of theory paper, and Internal Assessment shall carry 20 marks.

ii) The Internal Assessment shall be based on periodical tests, written assignments, presentations, classroom attendance and participation.

iii) One tour/summer training is compulsory every year of which the students shall prepare" A Tour Report". This report shall be evaluated by the examiner and shall be given grades A, B & C.

iv) The pattern of theory paper shall be as per the pattern of other undergraduate courses.

(I) Growth and development of tourism in India.

(II) Definition, nature and characteristics of tourism.

(III) Types and components of tourism

(IV) Impacts of Tourism

a) Socio–cultural impacts

b) Economic impacts

c) Environmental impacts

(V) Tourism as an industry

(VI) India a destination for all

(VII) Case study of ITDC

Note:

i) The Internal Assessment shall be based on periodical tests, written assignments, presentations, classroom attendance and participation.

ii) One tour/summer training is compulsory every year of which the students shall prepare "A Tour/Project Report". This report shall be evaluated by the examiner and shall be given grades A, B & C.

Training: One Month

During the summer vacation one month training is a must and the internal assessment may be given the due weightage based on the training part of the candidate. Theory will be of 80 marks and internal assessment based on the training part will carry 20 marks.

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TOURISM AND TRAVEL MANAGEMENT (VOCATIONAL)

		L	T	Ext.	Int.
1. Tourism Business	Periods per week:	**3**	**3**	**50**	**50**
2. Tourism Product		**3**	**3**	**50**	**50**

'On the Job Training' of 8 weeks

1. In each paper 10 questions will be set and the candidates will be expected to attempt 5 questions. Each question will carry 10 marks.
2. The Internal assessment shall be based on periodical tests, written assignments and class–participation.
3. A consolidated Report on **'On the Job Training'** after Ist year and IInd year shall be prepared by every student and must be submitted in the college concerned upto September 30. The Consolidated Roport will be evaluated by the external examiner and shall be given the grades as follows.

   O – Outstanding
   A – Very Good
   B – Good
   C – Average
   D – Unsatisfactory

In case the training report is rated as unsatisfactory, the candidate shall have to submit it again incorporating the changes suggested by the examiner, within one month from the date of intimation to the candidate by the concerned college.

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SEMESTER–I
TOURISM AND TRAVEL MANAGEMENT (VOCATIONAL)

TOURISM BUSINESS

Time: 3 Hours **Total Marks: 100**
External Marks: 50
Internal Marks: 50

Instructions for the Paper Setters:

In each paper 10 questions will be set and the candidates will be expected to attempt 5 questions.

Each question will carry 10 marks.

Note:– The candidates are allowed to use simple (Non–Scientific) Calculators.

Introduction:– This paper covers the history of tourism both International and Domestic. Its development with organizational and regulatory methodology. The concept dimensions trends world over and its futuristic study.

Part–I

Definition, nature, importance and components of tourism are also included in the study. This paper is designed to cover in prospects of Tourism. Insulation, organization both national and international in world in promotion & development – WTO, IATA, UPTADA, IA TATC, etc.

Part–II

1. Definition, nature, Importance, components and typology of Tourism.
2. Concepts of Domestic and International Tourism recent trends.
3. Tourism as an industry, visitor, tourist, excursionist.
4. Growth and development of Tourism in India.
5. Impacts of Tourism–Economics, Social, Physical and Environmental.

Suggested Readings:

1. Chritopher J. Holloway: The Business of Tourism: McDonald and Evans, 1983.
2. A.K. Bhatia: Tourism Development, Principles and Practices: Sterling Published (P) Ltd., New Delhi, 1983.
3. Anand, M.M.: Tourism and Hotel Industry in India; Sterling Published (P) Ltd., New Delhi, 1990
4. Kaul, R.H.: Dynamics of Tourism; A Terminology; Sterling Published (P) Ltd., New Delhi, 1996
5. IITTM Growth of Modern Tourism, Monograph IITTM, New Delhi, 1989.
6. IITTM: Tourism as an Industry Monograph IITTM, New Delhi, 1989.
7. Burkart & Madlik Tourism – Past, Present and Future, Heinemann, London, 1974
8. Wahab, S.E.: Tourism Management : Tourism International Press, London, 1986.
9. Brymer, Robert A: Introduction to Hotel and Restaurant Management : Hub Publication, Co., I/OWA, 1984.
10. Riccline J.R. Brent: Travel and Tourism Hospitality, Research, London, 1982.
11. Surinder Aggarwal: Travel Agency Management Communication India, 1983.

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SEMESTER–II
TOURISM AND TRAVEL MANAGEMENT (VICATIONAL)

TOURISM PRODUCT

Time: 3 Hours **Total Marks: 100**
External Marks: 50
Internal Marks: 50

Instructions for the Paper Setters:

In each paper 10 questions will be set and the candidates will be expected to attempt 5 questions. Each question will carry 10 marks.

Note: The candidates are allowed to use simple (Non–Scientific) calculators.

Introduction: This paper is for the study of the Product–India covering the resources both nature and man–made. Historical and Geographical background. The people, the heritage, Ancilliary activities like arts, crafts, flora fauna environmental ecology and a study of the suitable development of Tourism connected with planning and area development.

Tourist Resources – Definition and Differentiation

Tourist Resources of India – types and typologies, cultural resource Art and architecture, Historical monument, religious and spiritual centres, fairs and festivals, craftsmanship, folk customs, costumes and dress museum monument and art Natural tourist Resources Rich diversity. In Land form and Landscape outstanding geographic features, climate.

Socio–Cultural Resources: I

Architectural Heritage of India: Glimpses of India's Architectural styles adopted over the ages. Historical: monuments of touristic significance–ancient medieval and modern–their spatial and regional dimensions. Important historical / archaeological sites. Important historical / archaeological sites, Museum, art gallaries and libraries–their location, assets and characterisitcs. Popular Religious shrines / centers–Hindu Buddhist, Jain, Sikh, Muslim, Christian and others Yoga, meditation and other centres:

Socio–Cultural Resources: II

Performing arts of India, Classical Dances and Dance Styles: Centres of learning and performances. Indian folk dances. Music and musical instruments: Different schools of Indian music status of vocal and instrumental music; new experiments. Handicrafts of India as a potential tourist resources. Fairs, and Festival–Social religious and commercial fairs: Festivals; promotional (tourism) fairs, viz: Kite festival White waterfestival sanke best race etc. Indian folk culture– folk custom and costumes, settlement patterns, religious observations, folk–lore and legends. Created tourist destinations, Academic, Scientific and industrial institutions.

Natural Tourist Resource–I

* Tourist resource potential in mountain with special reference to Himalayas : Resources and resource use patterns in the past present and future perspective.
* Indicate main desert areas, their geological structure: development as desert tourism–existing trends and facilities available, desert fair and desert festival. Coastal areas, beaches and Islands: Resources and resource pattern. Resources in Islands with special reference to Andaman and Nicobar Islands. Overview on Tourism Development strategies.

Books Recommended:

1. Percy Brown Indian Architecture–Hindu and Budhist period.
2. Harla, J. C. The Art and Architecture of Indian sub continent.
3. Bhartiya Vidya Bhawan Imperial Unity
4. do–Classical age
5. Acharya Ram Tourism & Cultural Heritage of India Rousa Publications (Jaipur, 1986).
6. Basham Al. L.The Wonder that was India: Rupa and Co., Delhi, 1988.
7. –do– The Gazettee of India ; History and Culture, Vol. 2, Publication Division Ministry of Information & Broadcasting, Government of India, 1988.
8. Hussain, A.A, The National Culture of India, National Book Trust, New Delhi, 1987.
9. Mukerji, R.K.The Culture and Art of India: George Allen Unwin Ltd.; London, 1959.
10. The Treasure of Indian Museums Marg Publications, Bombay.

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SEMESTER SYSTEM

Tax Procedure and Practice

	Periods per week		Marks	
	L	**T**	**Ext.**	**Int.**
Semester – I: Paper-A: Indian Tax System & Law	3	3	80	20
Semester – II: Paper-B: State and Central Sales Tax	3	3	80	20
'On the Job Training' of 4 Weeks				

The following pattern of setting of question paper shall be observed:

The question paper covering the entire course shall be divided into three sections as follows:-

Section-A: This section will consist of 7 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 14 marks.

Section-B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry six marks, total weightage of the section being 36 marks.

Section-C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions,will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 15 marks; total weightage of the section being 30 marks.

1. The internal assessment shall be based on periodical tests, written assignments and class-participation.
2. A consolidated report On the Job Training after Ist Year and IInd Year shall be prepared by every student and, must be submitted in the college concerned upto Septempber 30. The consolidated report will be evaluated by the external examiner and shall be given the grades as follows:
   O - Outstanding
   A - Very Good
   B - Good
   C - Average
   D - Unsatisfactory

In case the training report is rated as unsatisfactory, the candidate shall have to submit it again incorporating the changes suggested by the examiner, within one month from the date of intimation to the candidate by the concerned college.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Economics & Business)

(Semester – I)
Tax Procedure and Practice

Paper – A: Indian Tax System and Law

Time: 3 Hrs. **Max. Marks: 100**
External: 80
Internal: 20

Note: The candidates are allowed to use simple (Non-Scientific) calculators.
Instructions for the paper setters:
The following pattern of setting of question paper shall be observed: The question paper covering the entire course shall be divided into three sections as follows:-

Section-A: This section will consist of 7 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 14 marks.

Section-B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry six marks, total weightage of the section being 36 marks.

Section-C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions,will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 15 marks; total weightage of the section being 30 marks.

Section-A

Meaning of tax – Central and state powers of taxation. Distribution of revenues between central and states. Direct and indirect taxes.
Direct taxes of the central government – income tax, wealth tax, gift tax: interest tax act, 1974 with effect from 1.4.1993; expenditure tax act, 1987.
Indirect taxes of Central Government – Central Excise, Customs duty, Central sales tax.

Section-B

Taxes of the State Government: taxes on sale and purchase of goods tax on land and building octroi duty; tax on profession, trade and business; tool tax; tax on motor vehicle, transportation; tax on advertisement, tax on luxuries, entertainment and amusements; tax on betting and gambling; tax on electricity; tax on animal. Stamp duty, agricultural income tax; and land revenue.

Section-C

A income-tax Law, definitions, Residential Status, Incomes which do not form part of total income, Computation of total income, heads of income : salaries, income : from house property, profit & gain from business and profession, capital gains, income from other sources.
Clubbing Provisions, aggregation of incomes and set off and carry forward of losses, deduction from gross total income under chapter VIA.

References:

1. Singhania, V.K. and K. Singhania (2007), Direct Taxes Law & Practice, Taxmann Publications (P) Ltd., New Delhi, 2004.
2. Srivastava, M. (1981), Fiscal Policy & Economic Development in India, Chugh Publications, Allahabad.
3. Mehrotra, H.C. & P. Mehrotra (2007), Income Tax Law & Accounts, Sahitya Bhawan Publications, Agra.
4. Taxmann's direct Tax Laws As Amended by Finance Act, 2007 Taxmann Allied Services (P) Ltd. New Delhi, 2001.
5. www.incometaxindia.gov.in

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Economics & Business)

(Semester – II)
Tax Procedure & Practice

Paper-B: State and Central Sales Tax

Time: 3 Hrs. **Max. Marks: 100**
External: 80
Internal: 20

Note: The candidates are allowed to use simple (Non-Scientific) calculators.
Instructions for the Paper Setters:
The following pattern of setting of question paper shall be observed:
The question paper covering the entire course shall be divided into three sections as follows:-
Section-A: This section will consist of 7 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 14 marks.
Section-B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry six marks, total weightage of the section being 36 marks.
Section-C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions, will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 15 marks; total weightage of the section being 30 marks.

Section-A
Value Added Tax

Concept and salient features of Value Added Tax (VAT) Act and rules made thereunder.
Important terms and definitions.
Incidental and levy of tax – when, what and how the tax is paid.
Registration of dealers – Compulsory registration; procedure for registration; application for obtaining registration under the prescribed form and requisite fee and security / surety for the purpose of registration and certificate of registration – amendment, cancelling and obtaining duplicate registration certificate and procedure thereof.
Return and procedure for Payment, recovery and refund of tax.
Offences and Penalities

Section-B
Central Sales Tax

Regulatory framework— An overview of Central SalesTax, 1956; and Central Sales Tax (Registration and Turn over) Rules 1957. Important terms and definitions;

Important Terms and Definitions

Principles for determining— When central sales tax is leviable; the concept of sale or purchase of goods in the course of interstate trade or commerce.

When does a sale or purchase of goods take place outside the state; When does the sale or purchase of goods is in the course of import or export.

Registration of dealers and procedures thereof. Grant of Certificate Registration in Form 3.

Procedure for amendment, cancellation and obtaining duplicate certificate of registration.

Section-C
Rates of Tax:

Concessional rate, kinds of forms for availing the concessional rates and maintenance of records related thereto.

Sales to the registered dealers against Form C.

Purchasers obligations: Procedure for obtaining Form C from Sales Tax authorities and Issuing of form C to dealers.

Application under prescribed form with requisite fee for obtaining Form C. Maintenance of records for receipts and issue of Form C-Form 2.

Sellers obligations: Obtaining Form C from Purchasers.

Maintenance of records of C Form collected and submission of C Form at the time of assessment.

References:

1. Datey, V.S. (2006), Taxmann's Indirect Taxes Law & Practice, Taxmann Publications Pvt. Ltd., New Delhi.
2. Taxmann's Indirect Tax Laws as amended by Finance Act 2007. Taxmann Allied Services (P) Ltd., New Delhi, 2004.
3. www.income.tax.india.gov.in

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Economics & Business)

SCHEME

ADVERTISING SALES PROMOTION AND SALES MANAGEMENT (VOCATIONAL)

		Periods per Week		Marks	
		L	T	Ext.	Int.
Ist Semester:	**Marketing Communication**	3	3	80	20
IInd Semester:	**Advertising–I**	3	3	80	20
	On–the–Job Training' of 4 Weeks				

1. The internal assessment shall be based on periodical tests, written assignments and class–participation.
2. A consolidated report on the job training after Ist year and IInd year shall be prepared by every student and, must be submitted in the college concerned upto September 30. The consolidated report will be evaluated by the external examiner and shall be given in the grades as follows :
   O – Outstanding
   A – Very Good
   B _ Good
   C _ Average
   D _ Unsatisfactory

In case the training report as rated as unsatisfactory, the candidate shall have to submitted it again incorporating the changes suggested by the examiner, within one month from the date of intimation to the candidate by the concerned college.

Advertising Sales Promotion and Sales Management
Objectives:
This course is intended to impart knowledge and develop skill among the participants in the field of marketing communication, so as to equip them to man junior and lower–middle level positions in the fast–growing and challenging business areas of advertising, sales promotion, selling and sales management and Public relations. The course shall consist of six papers, two each of the three years of under graduate programme in the Indian Universities and other institutions. The six papers are:

1. Marketing Communication.
2. Advertising–I
3. Advertising–II
4. Personal Selling and Salesmanship.
5. Management of the Sales–Force.
6. Sales Promotion and Public relations.

All the papers will be handle so as to have practical orientation, with Indian cases and examples.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Economics & Business)

SEMESTER–I
ADVERTISING SALES PROMOTION AND SALES MANAGEMENT (VOCATIONAL)

MARKETING COMMUNICATION

Total Marks: 100
Time: 3 Hours **External Marks: 80**
Internal Marks: 20

Note: The candidates are allowed to use simple (Non–Scientific) calculators.
Instructions for the Paper Setters:

Section–A: This section will consist of 7 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 14 marks.

Section–B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry six marks, total weightage of the section being 36 marks.

Section–C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions will be set by the examiner and the candidates will be expected to attempted two questions. Each question will carry 15 marks; total weightage of the section being 30 marks.

* Nature and importance of Communication.
* Communication process: Elements of the communication Process, Application of communication process in marketing. Steps in developing effective marketing communication.
* Methods of Marketing communication.
* Advertising, personal selling, Public relations, sales promotion, their meaning and distinctive characteristics.
* Setting up of targets: Policies, strategies and methods of achievements.
* Integrated Communication in Marketing.

Suggested Readings:

1. Kotler Phillip, Kevn Lane Ketter, Abrahan Koshy and Mithileshwari Jha, Marketing Management, PHI, 13th ed., 2007.
2. Etzel, Michael J., Bruce J. Walker, William J. Stantonard Ajay Pandit. Marketing Concepts 1 Cases, 13th edition, Tat, McGraw Hill, 2006.
3. Rampal, M.K. and S.L. Gupta, Cases & Simulations is Marketing Management, Galgotia Publishing Co., 2000.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Economics & Business)

SEMESTER–II
ADVERTISING SALES PROMOTION AND SALES MANAGEMENT (VOCATIONAL)

ADVERTISING–I

Total Marks: 100
Time: 3 Hours **External Marks: 80**
Internal Marks: 20

Note: The candidates are allowed to use simple (Non–Scientific) calculators.
Instructions for the Paper Setters:

Section–A: This section will consist of 7 very short answer questions with answer to each question upto 5 lines. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 14 marks.

Section–B: This section will consist of short answer questions with answer to each question upto two pages. Nine questions will be set by the examiners and the candidates will be expected to attempted six question. Each question will carry six marks, total weightage of the section being 36 marks.

Section C: This section will consist of essay type questions with answers to each question upto 5 pages. Four questions will be set by the examiner and the candidates will be expected to attempt two questions. Each question will carry 15 marks; total weightage of the section being 30 marks.

Part–I

* Importance of advertising in modern marketing. Role of advertising in the national economy.
* Types of advertising: Commercial and noncommercial advertising; primary demand and selective demand advertising; classified and display advertising; comparative advertising' cooperative advertising.

Part–II

* Setting of advertising objectives.
* Setting of advertising budget, Factors affecting the, advertising expenditure in a company.
* Advertising message, Preparing and effective advertising copy; elements of a print copy; headlines, illustration, bodycopy, slogan, logo seal of approval role of colon, elements of a broadcast copy, copy for direct mail.

Suggested Readings:

1. Batra, Rajeev, John G. Myers & David A. Aaker, Advertising Management, 5th ed., PHI, 2006.
2. Rampal, M.K. and S.L. Gupta, Cases & Simulations in Marketing Management, Galgotia Publishing Co., 2000.
3. Belch, George E and Michael A. Batch. Advertising & Promotion, McGraw Hill 2003.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Economics & Business)

SEMESTER–I
COMMERCE

COMMERCE THEORY AND FUNCTIONAL MANAGEMENT

Time: 3 Hours **Max. Marks: 100**

Note: The candidates are allowed to use simple (Non–Scientific) calculators.
Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer questions with answers to each question upto five lines in length. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 20 marks.

Section–B It will consist of short answer questions with answer to each question upto two pages in length. Twelve questions will be set by the examiner and eight will be attempted by the candidate. Each question will carry six marks; total weightage of the section being 48 marks.

Section–C It will consist of essay type questions with answers to each question upto 5 pages in length. Four questions will be set by the examiner and the candidate will be required to attempt two. Each question will carry sixteen marks; total weightage of the section being 32 marks.

A critical evaluation of various definitions of Commerce, Commerce Art or Science or both, Commerce as a Profession, Relationship and Difference between Economics, Commerce and Management, Functions of Commerce–Traditional and Modern. Management: Definition, purpose and significance. Management Art or Science for both.
Management as a Process: Planning, Organising, Staffing, Direction and Control and their meaning, Features and principles.
Contributions to Management thought with special reference to Taylor, Fayel, Elton Mayo.
Personnel Management: Meaning and significance, Managerial and operative Functions–Recruitment, Selection and training. Methods of wage payment, absenteism and labour turnover. Job evaluation and merit rating. Trade Unionism, worker's participation in management.

Marketing Management: Concept of Marketing, functions of marketing research–meaning and, techniques, advertising and salesmanship.
Production: Functions, production, planning and control, purchasing and storekeeping, inventory control, quality control.
Finance: Meaning and importance, sources of finance.

Suggested Readings:

1. Bose Chandra, "Principles of Management and Administration", Prentice Hall of India, 2007.
2. Massie, "Essentials of Management", Fourth Edition, Prentice Hall of India, 2007.
3. Robbins and Coulter, "Management", 8th Edition, Prentice Hall of India, 2007.
4. Dholakia Nikhilesh and Khurana Rakesh, "Marketing Management", McMillan India Ltd., 2007.
5. Hitt, "Management", Pearson Education, 2007.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Economics & Business)

SEMESTER–II
COMMERCE

BOOK KEEPING AND ACCOUNTANCY

Time: 3 Hours **Max. Marks: 100**

Note: The candidates are allowed to use simple (Non–Scientific) calculators.
Instructions for the Paper Setters:

Section–A: It will consist of 10 very short answer questions with answers to each question upto five lines in length. All questions will be compulsory. Each question will carry two marks; total weightage of the section being 20 marks.

Section–B: It will consist of short answer questions with answer to each question upto two pages in length. Twelve questions will be set by the examiner and eight will be attempted by the candidates. Each question will carry six marks; total weightage of the section being 48 marks.

Section–C It will consist of essay type questions with answers to each question upto 5 pages in length. Four questions will be set by the examiner and the candidates will be required to attempt two. Each question will carry sixteen marks; total weightage of the section being 32 marks.

Generally accepted accounting principles, concepts
Convention. Theory and practice of Double entry system of book keeping.
Subsidiary Books and ledger, Trial Balance.
Bank reconciliation statement, Errors and their rectifications.
Preparation of trading profit and loss Account and Balance sheet of sole trader and partnership.
Treatment of capital and Revenue expenditure.
Preparation of receipts and payments account and income and expenditure accounts. Bills of exchange.
Elementary knowledge of consignment and joint venture.
Indian System of book keeping (Mahajani lekha vidhi). 50% numerical problem should be asked.

Books Recommended:

1. Bhattacharyya, "Financial Accounting for Business", Prentice Hall of India, 2007.
2. Grewal T.S. "Double Entry Book Keeping", Sultan Chand, 2007.
3. Tulsian P.C. "Financial Accounting", Pearson Education, 2007.
4. Maheshwari S.N. "Financial Accounting", Vikas Publications, 2007.
5. Horngren, "Introduction to Financial Accounting", Pearson Education, 2007.
6. Naryanaswamy, "Financial Accounting: A Management Perspective." Prentice Hall of India, 2007.

Note:

1. The candidates will visit major (trading/ manufacturing/ services) Organisation with view to be acquainted with the different systems of book keeping.
2. The college will organise atleast five lectures by experts/ professional. Accountants on final accounts/maintenance of different books of accounting.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Agriculture)

SEMESTER–I
DAIRY FARMING (VOCATIONAL)

THEORY

Time: 3 Hours **Marks: 50**
Period per week: Theory: 6

Instructions for the Paper Setters:
1. Question paper should be set strictly according to the syllabus and in the Punjabi Language.
2. The language of questions should be straight and simple.
3. Theory paper shall consist of three parts:
   a) Five short compulsory questions of two marks each requiring replies up to five lines each. (Marks: 5x2=10)
   b) Five questions of six marks each requiring short replies shall be asked. The candidate has the choice to attempt four questions. (Marks: 4x6=24)
   c) Four questions of descriptive type requiring five pages for each answer shall be asked. The candidate has the choice to attempt two questions. (Marks: 2x8=16)
4. The question paper should cover the whole syllabus.

General:
Advantages and constraints in dairy farming. Importance of livestock in agriculture and its relation to national economy. Live stock census, Milk production in Punjab, India, Per capita consumption of milk in Punjab and India as compared to some western countries.

Breeds Important Breeds of different Livestock Species, their Origin, Morphological Traits and Economic Traits:
i) Indigenous cattle i.e. Sahiwal, Haryana, Red Sindhi.
ii) Exotic cattle, i.e. Holstein Friesian, Jersery, Red Dane, Brown swiss, Ayrshire and Guernsey.
iii) Buffaloes breeds, i.e. Murrah, Nilli Ravi, Surti, Mehsana.
iv) Milch type goat breeds (both Indian and Exotic)

Anatomy and Physiology:
Anatomy & Physiology of udder. Milk synthesis and its secretion including let down of milk Digestive and reproductive system of cattle

Feeding Practices:
Classification of feeding stuffs. Study of roughages and concentrates. Silage and hay making. General principles of feeding cattle & buffaloes.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Agriculture)

SEMESTER–I
DAIRY FARMING (VOCATIONAL)

PRACTICAL

Time: 3 Hours. **Total Marks: 50**
Period Per Week 4 **Practical Marks: 40**
Internal Assessment: 10

Distribution of Marks:

Assignment:	**10 Marks**
Practical Note Book:	**10 Marks**
Two Visits to Dairy Farm:	**10 Marks**
Oral Examination:	**10 Marks**
Int. Assess.:	**10 Marks**

Note: Preparation of Practical Note Book and weekly write–ups of daily jobs assigned is compulsory.

1. Visits to Dairy farms having machine milking, fodder harvesting, feed mixing etc., Veterinary hospitals, Milk collection centre and milk plant. Visit and working study of Milk Producers Co–operative Society.
2. External body parts of Cow and Buffalo.
3. Identification of various breeds of Cows and Buffaloes.
4. Differentiation between 'Desi' and Crossbreed Cow and their calves.
5. Identification of various feed stuffs.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Agriculture)

SEMESTER–II
DAIRY FARMING (VOCATIONAL)

THEORY

Time: 3 Hours **Marks: 50**
Period per week: Theory: 6

Instructions for the Paper Setters:

1. Question paper should be set strictly according to the syllabus and in the Punjabi Language.
2. The language of questions should be straight and simple.
3. Theory paper shall consist of three parts:
   a) Five short compulsory questions of two marks each requiring replies up to five lines each. (Marks: 5x2=10)
   b) Five questions of six marks each requiring short replies shall be asked. The candidate has the choice to attempt four questions. (Marks: 4x6=24)
   c) Four questions of descriptive type requiring five pages for each answer shall be asked. The candidate has the choice to attempt two questions. (Marks: 2x8=16)
4. The question paper should cover the whole syllabus.

Management:

i) General care of cattle, grooming, exercise, bathing, oestrus observation, care during pregnancy, parturition, milking, clean milk production, drying off.

ii) Care of calves: Care and feeding of weaned calves, Identification marks (tattooing, branding and ear tagging) disbudding and castration etc.

iii) Principles of grading up in cattles. Various systems of breeding i.e. inbreeding, out breeding and crossbreeding. Importance of Sire & Dam.

iv) Artificial insemination, Merits and Demerits thereof.

Housing:

Location of dairy farm, grouping of different farm buildings. Sanitation, drainage in cattle sheds, disinfections of sheds. Heat stress. Methods of cooling in sheds. Supply of clean and fresh water.

Diseases and their Control:

Common infections and contagious diseases, their causes, symptoms and treatment. Vaccination schedule. Deworming and tick control.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Agriculture)

SEMESTER–II
DAIRY FARMING (VOCATIONAL)

PRACTICAL

Time: 3 Hours. **Total Marks: 50**
Period Per Week 4 **Practical Marks: 40**
Internal Assessment: 10

Distribution of Marks:

Assignment:	**10 Marks**
Practical Note Book:	**10 Marks**
Two Visits to Dairy Farm:	**10 Marks**
Oral Examination:	**10 Marks**
Int. Assess.:	**10 Marks**

Note: Preparation of Practical Note Book and weekly write–ups of daily jobs assigned is compulsory.

1. Identification and numbering of animals:
   a) Tattooing, b) Notching, c) Branding, d) Eartagging
2. Disbudding: Caustic touch, Hot iron method, Eclectric dehorner.
3. Collection of semen, its evaluation and extension (Demonstration only)
4. Techniques of artificial insemination (Demonstration only).

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Physical Education)

SEMESTER–I
PHYSICAL EDUCATION

THEORY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 60
Practical Marks: 40

Instructions for the Paper Setters:

Section A: The candidates are required to attempt all the six questions carrying two marks each. **6x2=12 Marks**.

Section B: The candidates are required to attempt seven out of twelve questions carrying four marks each. **7x4=28 Marks.**

Section C: The candidates are required to attempt two out of four questions carrying ten marks each. **10x2=20 Marks.**

Part–A

1. Definition of the terms: Education, Physical Education, Physical Training and Coaching.
2. Aims and Objectives of Physical Education.
3. Relationship of Education and Physical Education.
4. Biological Principles:
   (a) Growth and Development
   (b) Age and sex differences
   (c) Effects of heredity and environment on growth and development.
   (d) Chronological age, physiological age, Anatomical age and Mental age.
   (e) Body types.

Part–B

1. **Development of Physical Education and Sports in India.**
   (a) Pre–Independence
   (b) Post– Independence
   (c) Sports Schemes in India
      (i) N.S.N.I.S.
      (ii) Sports Authority of India.
      (iii) Punjab Sports Department.
      (iv) Punjab State Sports Council.
2. **Olympic Games:**
   (a) Ancient Olympics.
   (b) Modern Olympics.
3. **Commonwealth Games**
4. **Asian Games**

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Physical Education)

SEMESTER–I
PHYSICAL EDUCATION

PRACTICAL

Practical (External) Marks: 40

Division of Marks: Athletics (12) + Games (12) +Ground Markings (3+3), Practical Note Book (5), Viva–Voce (5)

- **Athletics Performance ——————** 100M, Shot–put for Boys
  100M, Shot–put for Girls

- **Games (Boys & Girls) —— Fundamentals, Rules, Performance**
  Volleyball
  Cricket

Suggested Readings:

1. Barrow, H.M. Man and His Movements: Principles of Physical education, Lea and Febiger, 1973, Latest Edition.
2. Reverse, R.S., Foundations of Physical Education Houghton Mifflin Co. Boston, 1978, Latest Edition.
3. Bucher, C.S. Foundations of Physical Education 5th Edition, 1968, at Louis C.V. Mosby. C.
4. Eraz Ahmad Khan, History of Physical Education – Scientific Book Co., Patna–4, Latest Ed.
5. Singh Kanwaljeet and Singh Inderjeet: Sports Sociology, Friends Publication, New Delhi, 2000.
6. Tadan D.K. et al,: Scientific basis of Physical Education and Sports, Friends Publication, New Delhi, 2001.
7. Singh Ajmer and Gill Jagtar: Essentials of Physical Education and Olympic Movement, Kalyani Publishers, Ludhiana, 2004.
8. Kang G.S. and Deol N.S.: An Introduction to Health and Physical Education 21st Century, Patiala, 2008.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Physical Education)

SEMESTER–II
PHYSICAL EDUCATION
THEORY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 60
Practical Marks: 40

Instructions for the Paper Setters:

Section A: The candidates are required to attempt all the six questions carrying two marks each. **6x2=12 Marks.**

Section B: The candidates are required to attempt seven out of twelve questions carrying four marks each. **7x4=28 Marks.**

Section C: The candidates are required to attempt two out of four questions carrying ten marks each. **10x2=20 Marks.**

Part–A

1. Cell :Structure and Functions.
2. Skeletal System : Types of bones, names of the various bones of the body, Various types of Joints.
3. Muscular System : Various types of muscles, structure of skeletal muscles.
4. Digestive system : It's organs and mechanism of digestion.
5. Nutrition : Elements of balanced diet, Functional Diet/Food

Part–B

1. Meaning and scope of health education. Hygiene problems of educational institutions and their remedial measures.
2. Personal hygiene; Care of eyes, teeth, ears, skin, hair and nail.
3. Air and water pollution and its remedial measures.
4. First aid in case of snake bite, drowning, electric shock, burns, fracture, dislocation, sprain and strain.
5. Effects of Alcohol and smoking on health.
6. Doping in sports.
7. Communicable Diseases: Mode of transmission, prevention and control of tuberculosis, hepatitis (A & B), Rabies and HIV/AIDS.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Physical Education)

SEMESTER–I
PHYSICAL EDUCATION

PRACTICAL

Practical (External) Marks: 40

Division of Marks: Athletics (12) + Games (12) +Ground Markings (3+3), Practical Note Book (5), Viva–Voce (5)

- **Athletics Performance ——————** 100M, Long Jump for Boys
  100M, Long Jump for Girls

- **Games (Boys & Girls)—— Fundamentals, Rules, Performance**
  Handball
  Kho–Kho

Suggested Readings:

1. John Raynor Anatomy and Physiology, New York, Harper & Row, 1983.
2. Rose and Wilson Foundations of Anatomy and Physiology, 1981, 5th ed.
3. Parror, J.W. anatomy and Physiology for Physical Education Teachers, Lend; Edward Arnold Healthful Living McGraw Hill, 1983.
4. Tadan D.K. et al,: Scientific basis of Physical Education and Sports, Friends Publication, New Delhi, 2001.
5. Singh Ajmer and Gill Jagtar: Essentials of Physical Education and Olympic Movement, Kalyani Publishers, Ludhiana, 2004.
6. Kang G.S.: Anatomy, Physiology and Health Education, Publication Bureau, Punjabi University, Patiala, 2000.
7. Kang G.S. and Deol N.S.: An Introduction to Health and Physical Education 21st Century, Patiala, 2008.
8. Dhillon G.K.: Health Education, Punjab Text Book.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Sciences)

SEMESTER–I
MATHEMATICS

PAPER–I: ALGEBRA

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Syllabus of this paper is split into two Parts Section–A and Section–B. Five questions will be set from each Section.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Mathematics would be six periods per week for each paper.

Section–A

Linear independence of row and column vectors. Row rank, Column rank of a matrix, Equivalence of column and row ranks, Nullity of matrix, Applications of matrices to a system of linear (both homogeneous and non–homogeneous) equations. Theorems on consistency of a system of linear equations. Eigen values, Eigen vectors, minimal and the characteristic equation of a matrix. Cayley Hamilton theorem and its use in finding inverse of a matrix. Quadratic Forms, quadratic form as a product of matrices. The set of quadratic forms over a field. Congruence of quadratic forms and matrices. Congruent transformations of matrices. Elementary congruent transformations. Congruent reduction of a symmetric matrix. Matrix Congruence of skew–symmetric matrices. Reduction in the real field. Classification of real quadratic forms in variables. Definite, semi–definite and indefinite real quadratic forms. Characteristic properties of definite, semi–definite and indefinite forms.

Section–B

Relations between the roots and coefficients of general polynomial equation in one variable. Transformation of equations and symmetric function of roots, Descarte's rule of signs, Newton's Method of divisors, Solution of cubic equations by Cardon method, solution of biquadratic equations by Descarte's and Ferrari's Methods. De–Moivre's Theorem and its applications, circular and hyperbolic functions and their inverse. Exponential and Logarithm function of a complex numbers. Expansion of trigonometric functions. Gregory's series. Summation of series.

Books Recommended:

1. K.B. Dutta: Matrix and Linear Algebra, Prentice Hall of India Pvt. Ltd., New Delhi (2002).
2. H.S. Hall and S.R. Knight: Higher Algebra, H.M. Publications, 1994.
3. Chandrika Parsad : Text book on Algebra and Theory of Equations, Pothishala Pvt. Ltd., Allahabad.
4. S.L. Loney : Plane Trigonometry Part–II, Macmillan and Company, London.
5. Shanti Narayan : Text Book of Matrix.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Sciences)

SEMESTER–I
MATHEMATICS

PAPER–II: CALCULUS–I

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Syllabus of this paper is split into two Parts Section–A and Section–B. Five questions will be set from each Section.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Mathematics would be six periods per week for each paper.

Section–A

Real number system, its properties, lub, glb of sets of real numbers, limit of a function, Basic properties of limits. Continuous functions and classification of discontinuities. Uniform continuities, differentiation of hyperbolic functions,

Section–B

Successive differentiation. Leibnitz theorem. Taylor's and Maclaurin's theorem with various forms of remainders. Indeterminate forms. Asymptotes. Tests for concavity and convexity, Points of inflexion, Multiple Points, Curvature, Tracing of Curves (Cartesian and Parametric coordinates only).

Books Recommended:

1. N. Piskunov : Differential and Integral Calculus, Peace Publishers, Moscow.
2. Gorakh Prasad : Differential Calculus, Pothishala Pvt. Ltd., Allahabad.
3. Erwin Kreyszig : Advanced Engineering Mathematics, John Wiley and Sons, 1999.

SEMESTER–II
MATHEMATICS

PAPER–I: INTEGRAL CALCULUS AND DIFFERENTIAL EQUATIONS

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Syllabus of this paper is split into two Parts Section–A and Section–B. Five questions will be set from each Section.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Mathematics would be six periods per week for each paper.

Section–A

Integration of hyperbolic functions. Reduction formule. Definite integrals. Fundamental theorem of integral calculus. Inequalities involving integrals. Quadrature, rectification volumes and surfaces of solids of revolution.

Section– B

Exact differential equations. First order and higher degree equations solvable for x,y,p. Clairaut's form and singular solutions. Geometrical meaning of a differential equation. Orthogonal trajectories. Linear differential equations with constant and variable coefficients. Variation of Parameters method, reduction method, series solutions of differential equations. Power series method, Bessel and Legendre equations. (only series solution).

Books Recommended:

1. D.A. Murray: Introductory Course in Differential Equations. Orient Longman (India), 1967.
2. G.F. Simmons: Differential Equations, Tata McGraw Hill, 1972.
3. E.A. Codington: An Introduction to Ordinary Differential Equations, Prentice Hall of India, 1961.
4. Gorakh Prasad: Integral Calculus, Pothishala Pvt. Ltd., Allahabad.
5. Erwin Kreyszig: Advanced Engineering Mathematics, John Wiley and Sons, 1999.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Sciences)

SEMESTER–II
MATHEMATICS

PAPER–II: CALCULUS – II

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Syllabus of this paper is split into two Parts Section–A and Section–B. Five questions will be set from each Section.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Mathematics would be six periods per week for each paper.

Section–A

Limit and Continuity of functions of two variables. Partial differentiation. Change of variables. Partial derivation and differentiability of real–valued functions of two variables. Schwartz's and Young's Theorem. Statements of Inverse and implicit function theorems and applications.
Euler's theorem on homogeneous functions. Taylor's theorem for functions of two variables. Jacobins.
Envelopes. Evolutes. Maxima, Minima and saddle points of functions of two variables. Lagrange's undetermined multiplier method.

Section–B

Double and Triple Integrals, Change of variables. Applications to evaluation of areas, Volume, Centre of Gravity and Moments of Inertia etc. Change of order of integration in double integrals.

Books Recommended:

1. Narayan, S.: Integral Calculus. Sultan Chand & Sons.
2. Kreyszig, E.: Advanced Engineering Mathematics.
3. Narayan S.: Differential Calculus, Sultan Chand & Sons.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–I
STATISTICS

PAPER – I: PROBABILITY – I

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Question paper will consist of two sections. Each section will consist of five questions set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Statistics would be six periods per week for each paper.

Section–A

Random experiments, the sample space, events, algebra of events, various definitions of the probability, probability function and its properties. Finite sample spaces; equally likely outcomes additive law of probability, conditional probability, multiplicative law of probability, independent events. Baye's Theorem. Random variable, example of random variables.

Section–B

Discrete random variables, its probability mass function and cumulative distribution function, Continuous random variable, its probability density function and cumulative distribution function. Properties of distribution function of discrete and continuous random variables. Equivalent events, real valued functions of random variables and the procedures of finding the probability functions of such functions illustrated by examples. The expected value of a random variable and of functions of a random variable. Properties of expected values. The variance of random variable and its properties.

Book Recommended:

1. Meyer, P.L. Introductory Probability and Statistical Applications, Addison—Wesley, (1970).

Books Suggested for Supplementary Reading:

1. Biswal, P.C., Probability and Statistics, Prentice Hall, India, 2007.
2. Ross, S.A. First Course in Probability, Sixth Edition, Pearson Education, 2007.
3. Hogg. R.V., Mcken, J.W. and Craig. A.T., Introduction to Mathematical Statistics, Pearson Education, 2007
4. Miller, I, and Miller, M. Mathematical Statistics with Applications, Seventh Edition, Pearson Education, 2007

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–I
STATISTICS

PAPER II: PROBABILITY – II

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Question paper will consist of two sections. Each section will consist of five questions set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Statistics would be six periods per week for each paper.

Section–A

Discrete Distributions : The uniform distribution, the Bernoulli distribution, the binomial distribution, the Poisson distribution, Derivation of the Poisson distribution from the Binomial distribution, the Geometric distribution, the Pascal distribution and the Hyper geometric distribution. The expected value and variance of these distributions.

Section–B

Continuous Distribution; The Normal distribution, the Exponential distribution, the Uniform distribution, the Gamma distribution, the Beta distribution. The properties of these distribution including their expected values and variance. The moment generating function, its examples and properties. (The treatment in this paper is restricted to one–dimensional random variable only).

Book Recommended:

1. Meyer, P.L. Introductory Probability and Statistical Applications, Addison—Wesley, (1970).

Books Suggested for Supplementary Reading

1. Biswal, P.C., Probability and Statistics, Prentice Hall, India, 2007.
2. Ross, S.A. First Course in Probability, Sixth Edition, Pearson Education, 2007.
3. Hogg. R.V., Mcken, J.W. and Craig. A.T., Introduction to Mathematical Statistics, Pearson Education, 2007.
4. Miller, I, and Miller, M. Mathematical Statistics with Applications, Seventh Edition, Pearson Education, 2007.

SEMESTER–II
STATISTICS

PAPER–I: STATISTICAL METHODS – I

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:
1. The candidates are allowed to use Non–Programmable calculators.
2. Question paper will consist of two sections. Each section will consist of five questions set from corresponding section of the syllabus.
3. The student will attempt five questions in all selecting at least two questions from each section.
4. Teaching time for Satistics would be six periods per week for each paper.

Section–A

Meaning and scope of statistics, limitation of statistics, Collection of data, presentation of data, diagramatic representation of data. Attributes and variables, discrete and continuous frequency distribution of a variable, graphical representation of frequency distribution of a variable. Central tendency : Measures of central tendency, namely, Arithmetic mean, median, mode, Geometric mean, Harmonic mean and their comparisons with an ideal measure of central tendency.

Section–B

Dispersion : Measures of dispersion, namely, range, mean deviation, quartile deviation and standard deviation. The advantages of standard deviation as measure of dispersion over the other measures, Relative Measures of dispersion, coefficient of variation. Central and non–central moments, central–moments expressed in term of moments about an arbitrary origin and viceversa. Sheppard's correction for moments. Skewness and its measures, Kurtosis and its moasures.

Book Recommended:

1. Goon, A.M. Gupta, M.K. and Dasgupta B., Fundamentals of Statistics, Vol. I, World Press, 2005.

Books Suggested for Supplementary Reading:

1. Goon, A.M. Gupta, M.K. and Dasgupta B., Basic Statistics, World Press, 2005.
2. Gupta, S.C. Statistical Methods, Himalayan Publishing House, 2003.
3. Nagar, A.L. and Das, R.K., Basic Statistics, Oxford University Press, 2005.
4. Gupta, S.C. and Kapoor, V.K. : Fundamentals of Mahematical Statistics, Sultan Chand and Company, 2007.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–II
STATISTICS

PAPER–II: STATISTICAL METHODS – II

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. The candidates are allowed to use Non–Programmable calculators.
2. Question paper will consist of two sections. Each section will consist of five questions set from corresponding section of the syllabus.
3. The student will attempt five questions in all selecting at least two questions from each section.
4. Teaching time for Statistics would be six periods per week for each paper.

Section–A

Bivariate data, scatter diagram, covariance, Karl–Pearson's correlation coefficient and its properties calculation of correction coefficent from grouped data, bounds of the correlation coefficient interpretation of the value of the correlation coefficient.

Section–B

The principle of least squares, fitting of straight line, parabola, polynomials, exponential and its properties calculation of correlation coeffcient and logarithmic curve, regression lines, relation between correlation cofficient and regression coefficients. The Spearman's rank correlation coefficient. Independence and association of attributes, measures of association and contingency.

Book Recommended:

1. Goon, A.M. Gupta, M.K. and Dasgupta B., Fundamentals of Statistics, Vol. I, World Press, 2005.

Books Suggested for Supplementary Reading:

1. Goon, A.M. Gupta, M.K. and Dasgupta B., Basic Statistics, World Press, 2005.
2. Gupta, S.C., Statistical Methods, Himalayan Publishing House, 2003.
3. Nagar, A.L. and Das, R.K., Basic Statistics, Oxford University Press, 2005.
4. Gupta, S.C. and Kapoor, V.K., Fundamentals of Mahematical Statistics, Sultan Chand and Company, 2007.

SEMESTER–I
APPLIED STATISTICS

PAPER–I: MATHEMATICAL METHODS–I

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Question paper will consist of two sections. Each section will consist of five questions set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Statistics would be six periods per week for each paper.

Section–A

Limits and continuity of functions, intermediate forms, derivatives and their geometrical interpretations. Successive differentiation. Applications of derivatives to maxima and minima, exponential and logarithmic functions, integrals of functions of one variable, geometrical interpretation of integral as area, integration of standard functions, integration by substitution and parts.

Section–B

Trigonometry: Definition of an angle, its various measures and relations between them, graphs, circular functions. Solution of Trigonometrical equations. Properties of triangle (Sine formula, and Tangent formula).

Books Recommended:

1. Loney, S.L. Plane Trigonometry, Part–I, Aitab Publishers and Publications,
2. Grewal, B.S., Elementary Engineering Mathematics, Khanna Publishers, 2007.

Books Suggested for Supplementary Reading:

1. Narayan, S., Differential Calculus, Shyamlal Charitable Trust, 2003.
2. Datta, U., Mohagaonkar, S.D. and Muktibodh, A.S., Algebra and Trigonometry, Prentice, Hall, 2007.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–I
APPLIED STATISTICS

PAPER–II: MATHEMATICAL METHODS–II

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Question paper will consist of two sections. Each section will consist of five questions set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Statistics would be six periods per week for each paper.

Section–A

The solution of linear and quadratic equations in one variable, arithmetic geometric and harmonic progressions arithmetico–geometric progression, permutations and combinations, principle of induction.

Section–B

Binomial theorem for positive integral index. Coordinate Geometry : Equations of straight line, circle, parabola, ellipse and hyperbola.

Books Recommended:

1. Jain, P.K. and Ahmad, K.A., Text Book of Analytical Geometry of Two Dimensions, New Age International Publishers, 2004.
2. Allen, R.G.D., Mathematical Analysis for Economists, Macmillan India, Ltd. 2005.
3. Grewal, B.S., Elementary Engineering Mathematics, Khanna Publishers, 2007.

Book Suggested for Supplementary Reading:

1. Datta, U., Mohagaonkar, S.D. and Muktibodh, A.S. Algebra and Trigonometry, Prentice, Hall, 2007.

SEMESTER–II
APPLIED STATISTICS

PAPER–I: PROBABILITY–I

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Question paper will consist of two sections. Each section will consist of five questions set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Statistics would be six periods per week for each paper.

Section–A

Statistical data and frequency distribution, Random experiments, sample space, various types of events, probability, Finite sample spaces, equally likely outcomes, additive law of probability, conditional probability, Multiplicative law of probaility, Baye's theorem, independent events (pair wise and mutual).

Section–B

Random variables: discrete and continous, probability mass function, probability density functions, Cumulative distribution function and its properties.

Book Recommended:

1. Meyer, P.L., Introductory Probability and Statistical Applications, Addison Wesley, 1970.

Books Suggested for Supplementary Reading:

1. Biswal, P.C., Probability and Statistics, Prentice Hall of India, 2007.
2. Ross, S.A., First Course in Probability, Pearson Education, 2007.

SEMESTER – II
APPLIED STATISTICS

PAPER–II: PROBABILITY – II

Time: 3 Hours **Marks: 50**

Instructions for the Paper Setters:

1. Question paper will consist of two sections. Each section will consist of five questions set from corresponding section of the syllabus.
2. The student will attempt five questions in all selecting at least two questions from each section.
3. Teaching time for Statistics would be six periods per week for each paper.

Section–A

Expectation and variance of a random variable. Discrete distribution: Uniform, Bernoulli Binomial, Poisson, Negative Binomial, Geometric, Hyper geometric distribution.

Section–B

Continuous Distributions: Uniform, Exponential, Gamma, Beta and Normal distribution.

Book Recommended:

1. Meyer, P.L., Introductory Probability and Statistical Applications, Addison Wesley, 1970.

Books Suggested for Supplementary Reading:

1. Biswal, P.C., Probability and Statistics, Prentice Hall of India, 2007.
2. Ross, S.A., First Course in Probability, Pearson Education, 2007.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–I
CHEMISTRY

ORGANIC CHEMISTRY–I

Time: 3 Hrs. **Marks: 35**
45 Hrs (3 Hrs/week)
4 Periods/week

The Paper shall consist of three parts as detailed below:–

Part–A

It shall consist of 9 very short answer type questions (Q. Nos. 1 to 9) from the entire syllabus and the maximum length of each question may not exceed 1/4th the page. Minimum of 3 questions are to be set from each unit of the syllabus. Each question will be of 1 mark and the candidate may be asked to attempt any 7 questions.

Marks: 07

Part–B

It shall consist of 12 short answer type questions (Q. Nos. 10 to 21) from the entire syllabus and the maximum length of each question may not exceed one–half a page. Four questions are to be set from each unit of the syllabus. Each question will be of 2½ marks and the candidate may be asked to attempt any 8 questions.

Marks: 20

Part–C

It shall consist of 3 descriptive type questions (Q. Nos. 22 to 24) from the entire syllabus and the maximum length of each question may not exceed four pages. One question is to be set from each unit of the syllabus. Each question will be of 4 marks and the candidate may be asked to attempt any 2 questions.

Marks: 08

Unit–I

I. Structure and Bonding **(5 Hrs.)**

Hybridization, bond lengths and bond angles, bond energy, localized and delocalized chemical bond, Vander Waals interactions, resonance, hyperconjugation, aromticity hydrogen bonding and Inductive and electrometric effects.

II. Mechanism of Organic Reactions **(6 Hrs.)**

Curved arrow notation, drawing electron movements with arrows, half–headed and double–headed arrows, homolytic and heterolytic bond breaking. Types of reagents – electrophiles and nucleophiles. Types of organic reactions. Energy considerations.

Reactive intermediates –Carbocations, carbanions, free radicals, carbenes, arenes and nitrenes (with examples). Assigning formal charges on intermediates and other ionic species.

III. Alkanes **(4 Hrs.)**

Isomerism in alkanes, sources, methods of formation (with special reference to Wurtz reaction, Kolbe reaction, Corey–House reaction and decarboxylation of carboxylic acids), physical properties and chemical reactions of alkanes. Mechanism of free radical halogenation of alkanes: orientation, reactivity and selectivity.

Unit–II

IV. Cycloalkanes: (**5 Hrs.)**

Baeyer's strain theory and its limitations. Ring strain in small rings (cyclopropane and cyclobutane), theory of strainless rings. The case of cyclopropane ring : banana bonds.

V. Arenes and Aromaticity **(10 Hrs.)**

Nomenclature of benzene derivatives. The aryl group. Aromatic nucleus and side chain. Structure of benzene: Molecular formula and Kekule structure. Stability and carbon carbon bond lengths of benzene, resonance structure, MO picture.

Aromaticity : the Huckel's rule, aromatic ions.

Aromatic electrophilic substitution–general pattern of the mechanism, role of σ and π complexes. Mechanism of nitration, halogenation, sulphonation, mercuration and Friedel Crafts reaction. Energy profile diagrams. Activating and deactivating substituents, orientation and ortho/para ratio. Side chain reactions of benzene derivatives. Methods of formation and chemical reactions o f alkylbenzenes.

Unit–III

VI. Stereochemistry of Organic Compounds **(15 Hrs.)**

Concept of isomerism. Types of isomerism. Optical isomerism, elements of symmetry, molecular chirality, enantiomers, stereogenic centre, optical activity, properties of enantiomers, chiral and achiral molecules with two stereogenic centres, diastereomers, threo and erythro diasteremers, meso compounds, resolution of enantiomers, inversion, retention and racemization. Relative and absolute configuration, sequence rules, D & L and R & S systems of nomenclature. Geometric isomerism–determination of configuration of geometric isomers. E & Z system of nomenclature. Conformational isomerism–conformational analysis of ethane and n–butane; conformation of cyclohexane, axial and equatorial bonds, conformation of mono substituted cyclohexane derivatives. Newman projection and Sawhorse formulae, Fischer and flying wedge formulae. Difference between configuration and conformation.

SEMESTER–I
CHEMISTRY

INORGANIC CHEMISTRY–I

Time: 3 Hrs. **Marks: 35**
45 Hrs (3 Hrs/week)
4 Periods/week
The Paper shall consist of three parts as detailed below:–

Part–A

It shall consist of 9 very short answer type questions (Q. Nos. 1 to 9) from the entire syllabus and the maximum length of each question may not exceed 1/4th the page. Minimum of 3 questions are to be set from each unit of the syllabus. Each question will be of 1 mark and the candidate may be asked to attempt any 7 questions.

Marks: 07

Part–B

It shall consist of 12 short answer type questions (Q. Nos. 10 to 21) from the entire syllabus and the maximum length of each question may not exceed one–half a page. Four questions are to be set from each unit of the syllabus. Each question will be of 2½ marks and the candidate may be asked to attempt any 8 questions.

Marks: 20

Part–C

It shall consist of 3 descriptive type questions (Q. Nos. 22 to 24) from the entire syllabus and the maximum length of each question may not exceed four pages. One question is to be set from each unit of the syllabus. Each question will be of 4 marks and the candidate may be asked to attempt any 2 questions.

Marks: 08

Unit–1

I. Atomic Structure **8 Hrs.**

Idea of de Broglie matter waves, Heisenberg uncertainty principle, atomic orbitals, Schrodinger wave equation, significance of ψ^1 and ψ 2, quantum numbers, radial and angular wave functions and probability distribution curves, shapes of s,p,d orbitals. Aufbau and Pauli exclusion principles, Hund's multiplicity rule. Electronic configurations of the elements and ions.

II. Periodic Properties **7 Hrs.**

Position of elements in the periodic table; effective nuclear charge and its calculations. Atomic and ionic radii, ionization energy, electron affinity and electronegativity –definition, methods of determination or evaluation, trends in periodic table and applications in predicting and explaining the chemical behaviour.

Unit–II

III. Chemical Bonding **15 Hrs.**

Covalent Bond –Valence bond theory and its limitations, directional characteristics of covalent bond, various types of hybridization and shapes of simple inorganic molecules and ions. BeF2 , BF3, CH4, PF5, SF6, IF7, SnCI2, XeF4, BF4, SnC16. Valence shell electron pair repulsion (VSEPR) theory to NH3, H3O+, SF4, CIF3, ICl2 and H2O. MO theory, homonuclear (elements and ions of 1st and 2nd row), and heteronuclear (BO, CN^-, CO, NO^+, CO^+, CN), diatomic molecules, multicenter bonding in electron deficient molecule (Boranes). Percentage ionic character from dipole moment and electronegativity difference.

Unit–III

IV. **Ionic Solids** **8 Hrs**

Concept of close packing, Ionic structures, (NaCI type, Zinc blende, Wurtzite, CaF2 and antifluorite, radius ratio rule and coordination number, limitation of radius ratio rule, lattice defects, semiconductors, lattice energy and Born–Haber cycle, solvation energy and solubility of ionic solids, polarizing power and polarisability of ions, Fajan's rule. Metallic bond– free electron, valence bond and band theories.

Weak Interactions –Hydrogen bonding, Vander Waals forces.

V. s–Block Elements **4 Hrs.**

Comparative study, diagonal relationships, salient features of hydrides, solvation and complexation tendencies

VI. Acids and bases **3 Hrs.**

Arrhenius, Bronsted–Lowry, the Lux–Flood, solvent system and Lewis concepts of acids and bases.

SEMESTER–I
CHEMISTRY

CHEMISTRY (PRACTICAL)

Duration: 3½ Hrs. **Marks: 30**
6 Period/Week

Inorganic Chemistry: Semi Micro analysis. Cation analysis, Separation and identification of ions from groups I, II, III, IV, V, and VI. Anionic analysis. Four ions with no interference.

Organic Chemistry Laboratory Techniques
Determination of Melting Point

Naphthalene 80–82^{o}C	Cinnamic acid 132.5–133^{o}C
Benzoic acid 121.5–122^{0}C	Salicylic acid 157.5–158^{o}C
Urea 132.5–133^{o}C	Acetanilide 113.5–114^{o}C
Succinic Acid 184.5–185^{o}C	m–dinitro benzene 90^{o}C
P–dichlorobenzene 52^{o}C	Aspirin 135^{o}C

Determination of Boiling Point

Ethanol 78^{o}C	Cyclo Hexane 81.4^{o}C,
Benzene–80^{o}C	Toluene 110°C

Practical Examination

1) Inorganic Mixture	18
2) Melting Point/Boiling point of organic substance	05
3) Viva–Voce	04
4) Note Book	03

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–II
CHEMISTRY

INORGANIC CHEMISTRY–II

Time: 3 Hrs. **Marks: 35**
45 Hrs (3 Hrs/week)
4 Periods/week

Instructions for the Paper Setters:

Part–A: It shall consist of 9 very short answer type questions (Q. Nos. 1 to 9) from the entire syllabus and the maximum length of each question may not exceed 1/4th the page. Minimum of 3 questions are to be set from each unit of the syllabus. Each question will be of 1 mark and the candidate may be asked to attempt any 7 questions. **Marks: 07**

Part–B: It shall consist of 12 short answer type questions (Q. Nos. 10 to 21) from the entire syllabus and the maximum length of each question may not exceed one–half a page. Four questions are to be set from each unit of the syllabus. Each question will be of 2½ marks and the candidate may be asked to attempt any 8 questions. **Marks: 20**

Part–C: It shall consist of 3 descriptive type questions (Q. Nos. 22 to 24) from the entire syllabus and the maximum length of each question may not exceed four pages. One question is to be set from each unit of the syllabus. Each question will be of 4 marks and the candidate may be asked to attempt any 2 questions. **Marks: 08**

Unit–I

I. p–Block Elements–I **15 Hrs.**

Comparative study (including diagonal relationship) of groups 13–17 elements, compounds like hydrides, oxides, oxyacids and halides of groups 13–16, hydrides of boron–diborane and higher boranes, Borazine, borohydrides, fullerenes.

Unit–II

II. p–Block Elements–II **15 Hrs**

Carbides, fluorocarbons, silicates (structural principle), tetrasulphur tetranitride, basic properties of halogens, interhalogens and polyhalide **,** Silicones and phosphazenes as examples of inorganic polymers, nature of bonding in triphosphazenes.

Unit–III

III. Chemistry of Transition Elements **15 Hrs.**

Characteristic properties of *d*–block elements. Properties of the elements of the first transition series, their simple compounds and complexes illustrating relative stability of their oxidation states, coordination number and geometry. General characteristics of elements of Second and Third Transition Series, comparative treatment with their 3d analogues in respect of ionic radii, oxidation states, magnetic behaviour.

SEMESTER – II
CHEMISTRY

PHYSICAL CHEMISTRY–I

Time: 3 Hrs. **Marks: 35**
45 Hrs (3 Hrs/week)
4 Periods/week

Instructions for the Paper Setters:

Part–A: It shall consist of 9 very short answer type questions (Q. Nos. 1 to 9) from the entire syllabus and the maximum length of each question may not exceed 1/4th the page. Minimum of 3 questions are to be set from each unit of the syllabus. Each question will be of 1 mark and the candidate may be asked to attempt any 7 questions. **Marks: 07**

Part–B: It shall consist of 12 short answer type questions (Q. Nos. 10 to 21) from the entire syllabus and the maximum length of each question may not exceed one–half a page. Four questions are to be set from each unit of the syllabus. Each question will be of 2½ marks and the candidate may be asked to attempt any 8 questions. **Marks: 20**

Part–C: It shall consist of 3 descriptive type questions (Q. Nos. 22 to 24) from the entire syllabus and the maximum length of each question may not exceed four pages. One question is to be set from each unit of the syllabus. Each question will be of 4 marks and the candidate may be asked to attempt any 2 questions. **Marks: 08**

Note: Log table and scientific calculators are allowed

UNIT–I

I. Gaseous States **15 Hrs.**

Postulates of kinetic theory of gases, deviation from ideal behaviour, van der Waal's equation of state.

Critical Phenomena : PV isotherms of real gases, continuity of states, the isotherms of van der Waal's equation, relationship between critical constants and van der Waals constants, the law of corresponding states, reduced equation of state.

Molecular Velocities : Root mean square, average and most probable velocities. Qualitative discussion of the Maxwell's distribution of molecular velocities, collision number, mean free path and collision diameter. Liquefaction of gases

UNIT–II

II. Liquid State 10 Hrs.

Intermolecular forces, structure of liquids (a qualitative description). Structural differences between solids, liquids and gases. Liquid crystals : Difference between liquids crystal, solid and liquid.Classification, structure of nematic and cholestric phases.
Thermography and seven segment cell.

III. Colloidal State 5 Hrs.

Definition of colloids, classification of colloids. Solids in liquids (Sol): kinetic, optical and electrical, properties, stability of colloids,protective action, Hardy Schulze law, gold number. Liquids in liquids (emulsions): Types of emulsions, preparation. Emulsifiers. general applications of colloids.

UNIT–III

IV. Solutions, Dilute Solutions and Colligative Properties 15 Hrs.

Ideal and non–ideal solutions, methods of expressing concentrations of solutions, activity and activity coefficient. Dilute solution, colligative properties, Raoult's law, relative lowering of vapour pressure, molecular weight determination. Osmosis, Law of osmotic pressure and its measurement, determination of molecular weight from osmotic pressure. Elevation of boiling point and depression of freezing point, Thermodynamic derivation of relation between molecular weight and elevation in boiling point and depression in freezing point. Experimental methods for determining various colligative properties. Abnormal molar mass degree of dissociation and association of solutes.

SEMESTER–II
CHEMISTRY

CHEMISTRY (PRACTICAL)

Duration: 3½ Hrs. **Marks: 30**
6 Period/Week

Crystalisation:

Concept of indication of crystalisation. Phthalic acid from hot water (using fluted filter paper & stem less funnel)

Acetanilide from boiling water.

Naphthalene from Ethanol

Benzoic acid from water

Physical Chemistry

1. To determine the specific reaction rate of hydrolysis of ethyl acetate catalysed by Hydrogen ions at room temperature.

2. To study the effect of acid strength on hydrolysis of an ester.

Viscosity, Surface tension (Pure liquids)

3. To study the viscosity and surface tension of CCI glycerine solution in water.

4. To determine the solubility of benzoic acid at different temperatures and to determine ΔH of the dissolution process.

5. To determine the enthalpy of neutralisation of a weak acid/weak base versus strong base/strong acid and determine the enthalpy of ionisation of the weak acid/weak base.

6. To determine the enthalpy of dissolution of solid calcium chloride and calculate the lattice energy of calcium chloride from its enthalpy data using Born Haber cycle.

Practical Examination:	**Marks**
1) Crystalisation	05
2) Physical Experiment	18
3) Viva–Voce	04
4) Note Book	03

Books Suggested:
Theory Courses:

1. Basic Inorganic Chemistry, F.A. Cotton, G. Wilkinson and P.L. Gaus, Wiley.
2. Concise Inorganic Chemistry, J.D. Lee, ELBS.
3. Concepts of Models of Inorganic Chemistry, B. Douglas, D. McDaniel and J. Alexander, John Wiley.
4. Inorganic Chemistry, D.E. Shriver, P.W. Alkins and C.H. Langford, Oxford.
5. Inorganic Chemistry, W.W. Porterfield Addison–Wesley.
6. Inorganic Chemistry, A.G. Sharpe, ELBS.
7. Inorganic Chemistry, G.L. Miessler and D.A. Tarr, Prentice Hall.
8. Organic Chemistry, Morrison and Boyd, Prentice–Hall.
9. Organic Chemistry, L.G. Wade Jr. Prentice–Hall.
10. Fundamentals of Organic Chemistry, Solomons, John Wiley.
11. Organic Chemistry Vol. I, II & III, S.M. Mukherji, S.P. Singh and R.P. Kapoor, Wiley Eastern Ltd. (New Age International).
12. Organic Chemistry, F.A. Carey, McGraw–Hill, Inc.
13. Introduction to Organic Chemistry, Sireitwieser, Heathcock and Kosover, Macmilan.
14. Physical Chemistry, G.M. Barrow, International Student Edition, McGraw Hill.
15. Basic Programming with Application, V.K. Jain, Tata McGraw Hill.
16. Computers and Common Sense, R. Hunt and Shelly, Prentice Hall.
17. University General Chemistry, C.N.R. Rao, Macmillan.
18. Physical Chemistry R.A. Alberty, Wiley Eastern Ltd.
19. The Elements of Physical Chemistry, P.W. Atkins, Oxford.
20. Physical Chemistry Through Problems, S.K. Dogra and S. Dogra, Willey Eastern Ltd.

Laboratory Courses:

1. Vogel's Qualitative Inorganic Analysis, revised, Svehla, Orient Longman.
2. Vogel's Textbook of Quantitative Inorganic Analysis (revised), J. Bassett, R.C. Denney, G.H. Jeffery and J. Mandham, ELBS.
3. Standard Methods of Chemical. Analysis, W.W. Scott : The Technical Press.
4. Experimental Inorganic Chemistry, W.G. Palmer, Cambridge.
5. Handbook of preparative Inorganic Chemistry, Vol. I & II, Brauer, Academic Press.
6. Inorganic Synthesis, McGraw Hill.
7. Experimental Organic Chemistry, Vol. I & II, P.R. Singh, D.S. Gupta and K.S. Bajpai, Tata McGraw Hill.
8. Laboratory Manual in Organic Chemistry, R.K. Bansal, Wiley Eastern.
9. Vogel's Textbook of Practical Organic Chemistry, B.S. Furniss, A.J. Hannaford, V. Rogers, P.W.G. Smith and A.R. Tatchell, ELBS.
10. Experiments in General Chemistry, C.N.R. Rao and U.C. Aggarwal, East–West Press.
11. Experiments in Physical Chemistry, R.C. Das and B. Behra, Tata McGraw Hill.
12. Advanced Practical Physical Chemistry, J.B. Yadav, Goel Publishing House.
13. Advanced Experimental Chemistry, Vol. I, Physical, J.N. Guru and R. Kapoor, S. Chand & Co.
14. Selected Experiments in Physical Chemistry, N.G. Mukherjee, J.N. Ghosh & Sons.
15. Experiments Physical Chemistry, J.C. Ghosh, Bharati Bhavan.

HOME SCIENCE

Scheme of Studies

SEMESTER–I

Subject	Theory	Practical
Home –Management & Hygiene.	6 Periods /week	4 Periods/week

Scheme of Examination

Theory	Name of Paper	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
	Home –Management & Hygiene	1	3	60	–	60

Practical	Name of Paper	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
	Home –Management & Hygiene	1	3	30	10	40

Total Marks (Theory & Practical): 100

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Sciences)

HOME SCIENCE

SEMESTER–II

Subject	Theory	Practical
Home –Management & Hygiene.	6Periods /week	4 Periods/week

Scheme of Examination

Theory	Name of Paper	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
	Home –Management & Hygiene	1	3	60	–	60

Practical	Name of Paper	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
	Home –Management & Hygiene	1	3	30	10	40

Total Marks (Theory & Practical): 100

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Sciences)

SEMESTER–I
HOME SCIENCE

HOME – MANAGEMENT & HYGIENE.

Time: 3 Hours/week **Marks: 60**

Instructions for the Paper Setters:

The question paper will consist of five sections A, B, C, D and E. Section A, B, C, D will have two questions each from the respective sections of the syllabus & Candidates are required to attempt one question from each section. Section E is Compulsory of 12 marks consist of 6 short type questions which will cover the entire syllabus uniformly.

Section–A

1. **Home :** Meaning and importance of Home Science

a) Functions of Home
b) Renting v/s owning
c) Selection of site, soil, locality for a house
d) Principles of planning a house, orientation aspect, prospect, privacy, roominess, grouping, flexibility, circulation, sanitation, furniture, requirement and practical considerations.

Section–B

1. Elements of Art: Line, form, shape, texture, size.
2. Principles of Art in relation to interior decoration, Harmony, Balance, Rhythm, Proportion and Emphasis.
3. **Colour**
   a) Characteristic of colour
   b) Colour wheel
   c) Colour schemes
   d) Use of colour in Int. Decoration for various rooms.

Section–C

1. **Hygiene**
   a) Definition of hygiene.
   b) Definition of infection, sources, carrier and control.
   c) Definition and types of immunity
2. **Causes and spread of following diseases**
   a) Caused by insects–malaria dengue.
   b) Conveyed by ingestion–Enteric fever, Jaundice, dysentery, and diarrhoea.
   c) Spread by droplet infection, chicken pox, measles, and mumps tuberculosis.
   d) Sexually transmitted diseases–AIDS.

Section–D

1. **Food Hygiene**
   a) Food Hygiene – Definition
   b) Hygiene during preparation, service and storage of food.
   c) Food poisoning, causes and prevention.
2. Purification and storage of Water for home.

SEMESTER–I

HOME SCIENCE

PRACTICAL

Time: 3 hrs./week **Total Marks: 40**

Practical Marks: 30

Insternal Assessment: 10

1. Cleaning & polishing of household metals, brass, copper, silver, gold, aluminium, iron, steel, non stick pans, Plastic.
2. Colour Wheel.
3. Colour Schemes– Monochromatic, Analogous, Complementary. Prepare any five texture sheets using Fevicol, Spray, Stencil, Thread, Pulling, Crayons marbling etc.
4. Floor decoration of Alpana & Rangoli for different Occasions.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Sciences)

HOME SCIENCE
SEMESTER–II

HOME MANAGEMENT HYGIENE

Time: 3 Hours/week **Marks: 60**

Instructions for the Paper Setters:

The question paper will consist of five sections A, B, C, D and E. Section A, B, C, D will have two questions each from the respective sections of the syllabus & Candidates are required to attempt one question from each section. Section E is Compulsory of 12 marks consist of 6 short type questions which will cover the entire syllabus uniformly.

Section–A

1. **Meaning & Definition of Home Management. Steps in management process**
2. **Furniture:** Basic considerations while, selection of furniture.
3. Flower Arrangement, Types, Essential equipment used in flower arrangement, Selection of material, Application of elements and principles of Art in Flower Arrangement

Section–B

1. **Resources:** Classification of resources, Human & nonhuman, Factors affecting the use of resources.
2. **Money Management:** Types of income, budgeting, its advantages and limitations.
   a) Planning of Budget
   b) Means of supplementing family income.
3. **Time:** Steps in making plans, tools in time management—peak loads, work curves, rest periods.
4. **Energy Management :**
   a) Introduction
   b) Fatigue—types causes and effects of fatigue
   c) Principles of work simplification

Section–C

1. Circulatory system
   1. Blood and its composition
   2. Coagulation of blood
   3. Structure and functions of heart.
2. **Digestive system:** Structure and functions of the alimentary canal.

Section–D

1. Reproduction system–male and female sex organs and their functions.
2. Structure & Functions of lungs, kidney & skin.

SEMESTER–II
HOME SCIENCE

FAMILY RESOURCE MANAGEMENT
PRACTICAL

Time: 3 hrs./week **Total Marks: 40**

Practical Marks: 30

Insternal Assessment: 10

1. Cleaning of window pane, refrigerator, Food Processor, Microwave, Gas Burner, Cooking Range.
2. Flower Arrangements– Fresh & Dry Arrangement.
3. Table Manners, Table setting and Napkin Folding.
4. Craft workshop – Decoupage, Glass Painting , Fabric Painting etc
5. To prepare any article using the above techniques.

References for Hygiene:

1. Pearce Evelyn C. Anatomy and Physiology for Nurses, Oxford University.
2. Best, Charles H. and The Living Body–A Text in Tylor N.B. Human Physiology, Asia Publishing House.
3. Bedi, Y.P. Hygiene and Public Health.
4. Phadke, Aids to Hygiene
5. Saxena, R.R. (1990) Social and Prevention
6. Medicines, CBS Publishers and Distributors, Delhi.
7. Selman, A.C. (1992) Health and Longevity; OrientalWatchman Publishing House,Poona, India.
8. Bhatia B.C. and Sri P.N. Elementary Hygiene, Oriental (1968) Longman.

List of References, Recommended for Home Management:

1. Anna Hong Rutt, “Home furnishing,” Wiley Eastern Ltd. New Delhi, 1973.
2. Hazel Thompson, Criag Old Day Rush, “Home with character.” Universal Books Stall, Delhi, Kanpur, 1969.

3. Betty Pepis, "Interior Decoration a to z" Doubleday & Co.,Inc. New York, 1965.
4. Julia Elements, "101 Ideas for flower arrangement", C. Arthur Pearson Ltd. London, 1963.
5. Walter Ian Fischman, Richard Demsbe, William Bernard, "Basic Home Repairs," A Grosset Super Good life Book Publishers, New York, 1975.
6. Ray Faulkner, Sarah Faulkner "Inside Today's Home." Holt, Rnehart & Winston, 1973.
7. R.S. Deshpandae, "Modern Ideal Home for India" UnitedBook Corporation, Poona, 1983.
8. R.S. Deshpandae, Build your own home, United Book Corporation Poona, 1983.
9. Paulena Nickell & He Jean Muir Dorsey, "Management in Family Living," Wiley Eastern Ltd. 1983.
10. M.A. Varghese, N.M. Ogale, K. Srinivasan, "Home Management", Wiley Eastern Ltd., 1985.
11. The Educational Planning Group, Delhi, "Home Management," Arya Publishing House, New Delhi, 1986.
12. Stella Sounderaj, "A Text Book of House hold Arts", Orient Longman Ltd. 1974.
13. Irna H. Gross & Elizabeth Walbert Crandall, Management for Modern families, Wiley Eastern Ltd.
14. A Margaret Kaye, "A Student's Hand Book of Housewifery." J.M. Dent & Sons Ltd. London, 1958.
15. Amella Leaitt Hill, "Complete Book of Table setting and flower arrangement," Greystone Press.
16. Ball, Vetrio Kloss, "Art of Interior Design", The Macmillan Co., New York, 1962.
17. Goldstein 11.1. and Goldstein V. "Art in Everyday Life, Macmillan, New York, 1964.
18. Halse A.O. The use of colour in Interior, McGraw Hill Book Co. New York, 1961.
19. Swanson, Betty, "Introduction to Home Management" Macmillan Co., New York, 1981.

SEMESTER–I

COSMETOLOGY

Scheme of Study

Name of Paper	Period / Week
1. Cosmetology (Theory)	6
2. Cosmetology (Practical)	6

Scheme of Examination

Name of Paper	No. of Paper	Time	Marks
Cosmetology (Theory)	1	3hrs.	40
Practical	1	4hrs.	50
Internal Assessment			10
		Total Marks:	100

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Sciences)

SEMESTER–I
COSMETOLOGY

THEORY

Time: – 3 Hrs **Marks: 40**

Periods per week: 6

Instructions for the Paper Setters:

Section A: Eight short questions. All questions will be compulsory. Each question will carry one mark.

Section B: Seven questions will be set, each question will carry 2 marks.

Section C: Four questions will be set by the examiner and candidate will be required to attempt two. Each question will carry 9 marks.

I. Cosmetology:

Introduction:

a) Aims and Objective

b) Importance

II. Skin:

a) Structure of Skin

b) Types of Skin

c) Function of Skin

d) Common Skin Problems

III. Personal Grooming:

a) **Care of yourself –** Mouth, Teeth, Eyes, Ears, Feet, Removing Body Hair, Skin care and Cosmetics, Care of Hair, Nail and Hand Care, Care of your Clothing.

b) **Visual Poise –** Standing, Walking, Sitting.

c) Wardrobe Planning, illusion, Clothing Inventory, how to stay in fashion.

IV. Concept of Balanced Diet – Basic Food Groups, Factors to be kept in mind to plan a balanced diet.

SEMESTER–I
COSMETOLOGY

PRACTICAL

Time: – 4hrs **Marks: 50**

Periods / Week–6

I. Massage

a) Theory of Massage
b) Benefits of Massage
c) Methods of Massage
d) Massage Technique

II. Facial Massage (at Least Five)

a) Skin Analysis and Skin Care Routines
b) Plain Facial
c) **Skin Treatment–** Packs and Masks
d) Preparation of 3 Facial Creams for different skin types.
e) Preparation of Hand Creams.

SEMESTER–II
COSMETOLOGY

SCHEME OF STUDY

Name of Paper	Period / Week
1. Cosmetology (Theory)	6
2. Cosmetology (Practical)	6

Scheme of Examination

Name of Paper	No. of Paper	Time	Marks
Cosmetology (Theory)	1	3hrs.	40
Practical	1	4hrs.	50
Project (Internal Assessment)			10
		Total Marks:	**100**

SEMESTER–II
COSMETOLOGY

THEORY

Time: – 4 Hrs **Marks: 40**

Periods / Week–6

Instructions for the Paper Setters:

Section A: Eight short questions. All questions will be compulsory. Each question will carry one mark.
Section B: Seven questions will be set, each question will carry 2 marks.
Section C: Four questions will be set by the examiner and candidate will be required to attempt two. Each question will carry 9 marks.

I. Nails

a) Structure of Nail
b) Disorders of the Nails
c) Diseases of Nail

II. Basic Knowledge Regarding

a) Digestive System
b) Circulatory System

III. Nutrition

Basic Concept of Proteins, Carbohydrates, Fats, Vitamins, Minerals–Functions & Sources.

IV. Role of Exercise and Yoga for Health, Value of Yoga and Disciplines of Yoga.

I. A Comparative study in the terms of cost and utility of various skin products with special reference to –
   a) Brand names available in market
   b) Locally available products.
   c) Herbal products.
   The students are required to conduct a survey and submit a project report for assessment (to be assessed by 3 experts).
II. A Consumer survey (Sample Size 20) to be conducted to assess the utility and effectiveness of Home–remedies e.g Besan, Oatmeal, Curd etc

SEMESTER–II
COSMETOLOGY

PRACTICAL

Time: – 4hrs **Marks: 50**

Periods / Week–6

I. Nails and Hand care

a) Manicuring
b) Special Manicure
c) Massage for Manicure
d) Nail Mending
e) Artificial Nails
f) Pedicure

II. Yoga Asanas – Philosphy of yoga

a) Yoga for Health
b) Importance of Yoga practice
c) Guidelines for Yoga practice

1. Vakrassana
2. Utt–Lita Trikon Asana
3. Virabhadrasana
4. Padmasana
5. Janu sirsana
6. Pashimotanasana
7. Ardha matsyendrasana
8. Bhujangasana
9. Dhanurasana
10. Ystrasana

CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

SCHEME OF EXAMINATION

SEMESTER–I

Sr.No.	Name and Paper	Theory	Practical	Total
1.	Paper–A Basic Nutrition	40	–	40
2.	Paper–B Nutritional Biochemistry	40	20	60
			Total:	**100**

SEMESTER–II

Sr.No.	Name and Paper	Theory	Practical	Total
1.	Paper–A Meal Management	40	20	60
2.	Paper–B Food Microbiology	40	–	40
			Total:	**100**

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SEMESTER–I
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

PAPER–A: BASIC NUTRITION (THEORY)

Time: 3 Hrs. **Marks: 40**
Periods–4/Week

Instructions for the Paper Setters:

Theory paper will be of 3 hrs duration.
Question paper should cover all the topics of the syllabus.
There will be 8 questions in all (8 marks for each question).
The Student need to attempt 5 questions.
Question 1 is compulsory. This contains short answer type questions.

Objective:

To understand the relationship between nutrition and human well being.
To know the functions, sources and deficiencies of nutrient in human body.

Course Contents:

1. Introduction to nutrition– Food as a sources of nutrients, functions of food, definition of nutrition, nutrients , adequate, optimum and good nutrition, malnutrition.
2. Carbohydrates – Composition, Classification, Functions, Food Sources, Requirement, Deficiencies and storage in body.
3. Fats and Oils– Composition, Classification, Saturated, Unsatured fatty acids, food source, functions requirement, deficiencies.
4. Protein – Composition, Classification, Essential and Non– essential amino acids, food sources functions, deficiencies.
5. Energy– Unit of energy, food as a source of energy, energy value of food, The body need of energy. Factors affecting energy requirement
6. Vitamin– Classification, unit of measurements sources, requirements functions and deficiency of following vitamins.
   Fat Soluble vitamins A,D,E and K.
   Water Soluble vitamins– C,B1–B2,B3,B6, B12 and Folic acid.
7. Mineral– Functions, Sources, Bio–availability requirement and deficiency of following minerals calcium, iron, iodine, fluorine, Sodium, Potassium, Phosphorus, and Magnesium (in brief)
8. Acid–Base balance
9. Water– As a nutrient, functions, requirement, water balance and effect of deficiency.
10. Inter relationship between nutrition and health, visible symptoms of good health.

SEMESTER–I
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

BASIC NUTRITION (PRACTICAL)

Time: 3 Hrs.
Periods–6/Week

Note: There will be no Practical Exam.

1. Identification of different food stuffs, weight and measures and understanding of cooking terms and the principles involves in cooking.
2. Preparation of following food items using different methods of cooking and suitability for different meals.
   a) Beverage – e.g. Hot and cold (Tea, Coffee, fruit and milk based, beverage) etc.
   b) Wheat preparation – e.g. Chapati, Parantha Plain, Parantha Stuffed, Puris, Bhaturas and Nan Sandwhich, Dalia etc.
   c) Rice preparation – e.g. Plain, pulao fried, poha etc.
   d) Pulse preparation – e.g. Dal Makhani, Sambhar, Channa Masala, Raj Mah Masala. etc.
   e) Vegetable preparation – e.g. Palak Paneer, Mixed Vegetable, Ghobi, Masala, Vegetable Gobhi, Kofta, etc.
   f) Paneer dishes – e.g. Shahi Paneer, Kadahi paneer, Butter paneer etc.
3. Soups – e.g. Tomato, Hot and sour, corn soup etc.
4. Salads with dressing
5. Snacks e.g. vegetable pakora, paneer pakora, vegetable cutlets, Channa Dal & nutri Cutlet, Gulabjamun, laddu etc.

References:

1. Guthrie, Hele, Andrews, Intoductory Nutrition 6th ed. St. Louts, Times Mirror/Mosby College: 1988.
2. Mudambi, S.R., M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd Ed.) Wilay Eastern Ltd. 1990.
3. Swaminathan S: Advanced Text Book on Foods Nutrition, Vol. I, II (2nd Ed. Revised & enlarged) B. App C–1985.
4. Willson, EVAD Principles of Nutrition 4th Edition New York, John Willey & Sons. 1979.

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SEMESTER–I
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

PAPER–B: NUTRITIONAL BIOCHEMISTRY (THEORY)

Time–3 hrs **Marks: 40**
Periods–4/Week

Instructions for the Paper Setters:

Theory paper will be of 3 hrs duration.
Question paper should cover all the topics of the syllabus.
There will be 8 questions in all (8 marks for each question)
The Student need to attempt 5 questions.
Question 1 is compulsory. This contains short answer type questions.

Objective:

This Course help, students to gain understanding of the application of Biochemistry to foods, Nutrition and diet theory.

Course Contents:

1. Carbohydrate Metabolism – Digestion, Absorption, Glucose, Transport Glycloysis, Metabolism of lactate, and pyruvate, citric acid cycle, glycogensis, HMP Shunt pathway.
2. Lipid Metabolism – Digestion – Absorption, transport oxidation of fatty acids, biosynthesis of fatty acids mobilization of fats (lipolysis), Ketogensis, Metabolism of phospholipids and cholesterol.
3. Amino acid Metabolism – Digestion, Absorption, Transport, General Pathways, Biochemical, Transformations and metabolism.
4. Enzymes – Definition, Classification, Specificity of enzymes and factors affecting enzyme activity.
5. Basal Metabolism – Definition and factors affecting basal metabolism, Specific dynamic action of food stuffs, Estimation of B.M.R.
6. Metabolism of inorganic element, calcium, iron, phosphorus and magnesium.
7. Water and electrolyte balance.

SEMESTER–I
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

NUTRITIONAL BIOCHEMISTRY (PRACTICAL)

Time: 3 Hrs. **Marks: 20**
Periods–3 pds/Week

Note: Paper will be set on the spot by the Examiner.

1. Qualitative analysis of monosaccharide's, disaccharides and polysaccharides.
2. Quantitative estimation of Glucose.
3. To test the reactions of proteins fats and carbohydrates in milk, egg and bread.
4. Quantitative estimation of Calcium.
5. To find out adulteration in food stuffs.

References:

1. Lehnuger: A.L. Nelson D Cox MM, Principles of Biochemistry, 1993, 2nd Edition, CBS Publication.
2. Singh Sukhdev, Dr. Om Parkash, PV's Bio Chemistry and Clinical Pathology, 2005 Edition, S Vikas & Co.

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SEMESTER–II
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

PAPER–A: MEAL MANAGEMENT (THEORY)

Time: 3 Hrs. **Marks: 40**
Periods–4/Week

Instructions for the Paper Setters:

Theory paper will be of 3 hrs duration.
Question paper should cover all the topics of the syllabus.
There will be 8 questions in all (8 marks for each question)
The Student need to attempt 5 questions.
Question1 is compulsory. This contains short answer type questions.

Objective:

To enable the students to acquire knowledge of the principles of planning diets for various stages of life cycles.
Develop ability to plan balanced diet for various activity groups and for various socio–economic level loud.

Course Contents:

1. Introduction to meal management, Balanced diet, Food guide, Brief introduction to different food group plan, exchange list.
2. Basic principles of meal planning, objective steps in meal planning; food cost.
3. RDA definition, its objective and RDA for different age groups recommended by ICMR.
4. Nutritional requirement and consideration while planning diet for adult man– Sedentary moderate and heavy worker.
5. Nutritional requirement and consideration while planning diet for adult women sedentary, moderate and heavy worker.
6. Nutritional requirement and consideration while planning diet for pregnant woman, with special reference to complications in pregnancy.
7. Nutritional requirement and consideration while planning diet for lactating woman with special reference to different periods of lactations
8. Nutritional requirement and consideration while planning diet in infancy.
   Breast feeding– advantage and disadvantage, feeding patterns & technique
   Infant formula
   Weaning definition, time, importance and steps.
   Introduction of supplementary food.
9. Nutritional requirement and consideration while planning diet during early child hood toddlers and preschoolers with special consideration to their growth need.
10. Nutritional requirement and consideration while planning diet for school going children with special reference to importance of school lunch and snacks.
11. Nutritional requirement and consideration while planning diet for adolescent girl and boy with special reference to their growth need and eating habits.
12. Nutritional requirement and consideration while planning diet for old age with special reference to role of diet for health.

SEMESTER–II
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

MEAL MANAGEMENT (PRACTICAL)

Time: 3 Hrs. **Marks: 20**
Periods–6 Pds/Week

Note: Paper will be set on the spot by the Examiner.

1. Plan a day's diet for the following age groups calculates with calories protein, fat and one important vitamin or mineral as per requirement for the given age group.
    a) Adult man moderate worker
    b) Adult woman– Moderate worker
    c) Pregnant woman
    d) Lactating woman
    e) Infant – Weaning food
    f) Preschool Child
    g) School going
    h) Adolescent boy
    i) Adolescent gir
    j) Old age

2. Prepare any 3 weaning foods
3. Prepare 3 Dishes using following methods:
    a) Boiling e.g variation of pulses, Soups, Kheer, Custard pudding etc.
    b) Shallow frying e.g. variations of Stuffed Paranthas, pan cakes, Tikkies etc.
    c) Deep Frying – eg. Variations of cutlets etc,
    d) Steaming – e.g. Dhokla, Idli , Plain & Variation etc
    e) Baking – e.g. Cakes & Biscuits etc.
    f) Grilling – e.g. Pizza and variation of sandwiches. etc.
    g) Fermentation – e.g. Dosa, Vada etc.
    h) Sprouting – Any 4 dishes from sprouts
4. Make 3 Sweet Dishes (any)

References:

1. Guthrie, Hele, Andrews, Intoductory Nutrition 6th Ed. St. Louts, Times Mirror/Mosby College, 1988.
2. Mudambi S.R., M.V. Rajgopal. Fundamental of Foods & Nutrition (2nd Ed.) Wilay Eastern Ltd. 1990.
3. Swaminathan S., Advanced Text Book on Foods Nutrition, Vol. I, II (2nd Ed. Revised & enlarged) B. App C–1985.
4. Willson, EVAD Principles of Nutrition, 4th Ed., New York, John Willey & Sons. 1979.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Sciences)

SEMESTER–II
CLINICAL NUTRITION AND DIETETICS (VOCATIONAL)

PAPER–B: FOOD MICROBIOLOGY (THEORY)

Time: 3 Hrs. **Marks: 40**
Periods–4 Pds/Week

Instruction for the Paper Setter:

Theory paper will be of 3 hrs duration.
Question paper should cover all the topics of the syllabus.
There will be 8 questions in all (8 marks for each question)
The Student need to attempt 5 questions.
Question 1 is compulsory. This contains short answer type questions.

Objective:

To help students to acquire knowledge about microorganism.
To develop an understanding of the role of microorganism in environment, industry and maintenance of health.

Course Contents:

1. Introduction to microbiology and its relevance to everyday life. General Morphology of microorganism general characteristics of bacteria, fungi, virus, protozoa, alges.
2. Control of microorganism growth curve, effects of environmental factors on growth of microorganism – Ph. water activity, oxygen availability, temp and others.
3. Microbiology of different foods– Spoilage and contamination sources types effect on the following.
   a) Cereals and cereal products
   b) Sugar and Sugar products
   c) Vegetable and fruit
   d) Meat and Meat products
   e) Fist and other sea foods.
   f) Eggs and poultry
   g) Milk and Milk products
   h) Canned foods.
4. Environmental Microbiology– Water, air, soil and sewage other agent of contamination humans, domestics animals, vermins, birds, harmones, antibiotics, chemical and metal contamination.
5. Microbial intoxications and infections sources of contamination of foods, toxin production and physiological organism– Symptoms and methods of control.
6. Beneficial effects of microorganism
7. Relevance of Micro Biological standards for food safety.

References:

1. Frazier, W.C., Food Microbiology, 4th 2006, McGraw Hill, New York.
2. Blackburn, Food Spoilage Microorganism, 3rd Ed. 2006, Wood Heal, New York.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

SCHEME OF STUDIES

SEMESTER–I

Theory	Name of Paper	Teaching Periods	Time Hrs.	Marks	Int. Marks	Total
Paper–I	Fashion Designing–I **(5 Periods)**	3 per week	3 hrs	40	–	40

Practical	Name of Paper	Teaching Periods	Time in hrs.	Marks	Int. Marks	Total
Paper–II	Scale Drawing & Garment Construction–I	12 per week	4	50	10	60

Total Marks (Theory & Practical): 100

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FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

SCHEME OF STUDIES
SEMESTER–II

Theory	Name of Paper	Teaching Periods	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
Paper–I	Fashion Designing–II **(Periods 5)**	3 per week	1	3 hrs	40	–	40

Practical	Name of Paper	Teaching Periods	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
Paper–II	Scale Drawing & Garment Construction–II	12 per week	1	4	50	10	60

Total Marks (Theory & Practical): 100

SEMESTER–I
FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

PAPER–I: FASHION DESIGNING–I (THEORY)

Time: 3 Hrs. **Marks: 40**

Instructions for the Paper Setters:

Eight questions will be set, students are required to attempt any 5, carrying 8 marks each.

1. Introduction fashion fad, Style, Classic, Trends, Mass fashion, High fashion.
2. Origin of Clothing.
3. Theories of Fashion adoption.
4. Fashion cycle and factors affecting it.
5. Elements of Design and Principles related to Apparel designing

SEMESTER–I
FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

PAPER–II: SCALE DRAWING AND GARMENT CONSTRUCTION–I PRACTICAL

Time: 4 Hrs **Total Marks: 60**
Practical Marks: 50
Internal Assessment: 10

Instructions for the Paper Setters:
1. Construction of any one sample from Section A. **Marks 25**
2. One question from Part 3 and 4 of 10 &15 Marks respectively.

SECTION–A

1. Make Samples of the Following :

a) Tacking, running, hemming, back stitch, button hole, fasteners.

b) Seams: Plain seam, counter seam, run & fell seam, French seam.

c) Continuous wrap, two piece placket, plain dart, fish dart, gathers, tucks.

2. Draft and Construct the following:

a) Child Bodice block and plain sleeve block

b) Sleeves : i) Puff ii) Cap iii) Petal

c) Collars : i) Peter pan (Flat/ Raised) ii) Sailor's Collar

SECTION–B

3. 1.Basic block figure

2. Distribution of Weight

3. Flesh Figure

4. Formulae of hand and Feet

5. Formulae of Face

6. Leg formulae

7. Necklines and collars

8. Sleeves and cuffs

9. Skirts–Pleats, gathers, frills, fringes

4. Colour Wheel

1. Colour Schemes – Monochromatic, Analogous, Complementary.

SEMESTER–II
FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

PAPER–I: FASHION DESIGNING–II (THEORY)

Time: 3 Hrs. **Marks: 40**

Instructions for the Paper Setters:

Eight questions will be set. Students are required to attempt any 5, carrying 8 marks each.

1. Introduction : Haute –Couture, Pret–a–porter, mass production, Contemporary modern and classic designing
2. Fashion forecasting.
3. Wardrobe Planning
4. Principles of fashion
5. Factors influencing Fashion movement (Accelerating factors and retarding factors)
6. Fashion centres of India, Italy
7. Fashion designer Ritu Kumar, Calvin Klein

SEMESTER–II
FASHION DESIGNING AND GARMENT CONSTRUCTION (VOCATIONAL)

PAPER–II: SCALE DRAWING AND GARMENT CONSTRUCTION–II PRACTICAL

Time: 5 Hrs **Total Marks: 60**
Practical Marks: 50
Internal Assessment: 10

Instructions for the Paper Setters:
1. Construction of any one garment from Section A. Marks 25.
2. One question from Part 3 and 4 of 10 &15 Marks respectively.

Section–A

1. Make a Sample of 10 embroidery stitches:
   Stem, chain, Cross, satin, herringbone, lazy–daisy, Bullion, French Knots, fly stitch, feather stitch.
2. Design, Draft and construct the following :
   a) Romper/Sun Suit
   b) Design Frock (3–6 yrs)

Section–B

3. Using any of the following details drape the fashion figures, preparing 10 sheets in all using textured backgrounds.

(i) Bias/Drapes
(ii) Yokes + Waistlines
(iii) Bows + Pockets
(iv) Drawstrings + Fasteners + Zips
(v) Trimming (Tucks, Piping, embroidery, tassels, rouleau, smocking, shirring, appliqué, patch work).
(vi) Tops
(vii) Accessories–bags, footwear, jewellery.

4. a) Value Chart, intensity chart
b) Basic Design Motifs– Geometrical, Traditional, Abstract

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SEMESTER–I
EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)

SCHEME OF STUDIES

Sr. No.	Subject	Theory	Practical
1.	**Early Childhood Care and Education**	6 Periods /week	4 Periods/week

Theory	Name of Paper	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
1.	**Early Childhood Care and Education**	1	3	50	–	50

Practical	Name of Paper	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
2.	**Early Childhood Care and Education**	II	3	40	10	50(40+10)

Total Marks (Theory & Practical): 100

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SEMESTER–II
EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)

SCHEME OF STUDIES

Sr. No.	Subject	Theory	Practical
1.	**Early Childhood Care and Education**	6 Periods /week	4 Periods/week

Theory	Name of Paper	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
1.	**Early Childhood Care and Education**	1	3	50	–	50

Practical	Name of Paper	No. of Paper	Time in hrs.	Marks	Int. Marks	Total
1.	**Early Childhood Care and Education**	1	3	40	10	50(40+10)

Total Marks (Theory & Practical): 100

SEMESTER–I
EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)

EARLY CHILDHOOD CARE AND EDUCATION (THEORY)

Time: 3 Hrs. **Marks: 50**

Instructions for the Paper Setters:
Eight questions will be set; students are required to attempt any 5, carrying 10 marks each.

1. Definition & Importance of Child Development, Stages of Child Development.
2. Principles of Development.
3. Factors affecting Development.
4. Care of Mother: Pregnancy, Discomforts, physical & psychological care, preparation for delivery.
5. Growth & Development during Pre–Natal period, Factors affecting Pre–Natal Development.
6. Reflexes of new born child.
7. Care of Infant: Breast feeding, Bottle feeding, Weaning
8. Clothing for the Infant.
9. Immunization Schedule.
10. Common Childhood Diseases: common cold, cough, fever, measles,

SEMESTER–I
EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)

EARLY CHILDHOOD CARE AND EDUCATION (PRACTICAL)

Time: 3 Hrs **Total Marks: 50**
Practical Marks: 40
Internal Assessment: 10

1**.** Immunization schedule. Time–Table

2. Feeding Practices:

a) Sterilization of Feeding bottles

b) Preparation of formula milk

3. Weaning Foods: Importance, Preparation of 5 weaning foods.

4. Make a suitable Toy for an Infant.

SEMESTER–II
EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)

EARLY CHILDHOOD CARE AND EDUCATION
(THEORY)

Time: 3 Hrs. **Marks: 50**

Instructions for the Paper Setters:

Eight questions will be set, students are required to attempt any 5, carrying 10 marks each.

1. **Physical Development**: Definition, Principles of Physical Development, Physical Growth Cycles, Factors affecting Physical Growth Cycles.
2. **Motor Development**: Definition. Motor Skills (hand and leg skills), Factors affecting Motor skills, Importance of Motor Skills.
3. **Social Development**: Definition, Social Development during Infancy & Childhood, Role of Family & School in socialisation of child.
4. **Emotional Development: Definition**: Emotional Development during Infancy & Childhood, Temper Tantrums, Factors affecting Emotional Development.
5. **Language Development**: Importance of Speech, Factors affecting Language Development.
6. **Play**: Meaning & Importance of Play, Selection of suitable toys & Play Material for the child.

SEMESTER–II
EARLY CHILDHOOD CARE AND EDUCATION (VOCATIONAL)

EARLY CHILDHOOD CARE AND EDUCATION
(PRACTICAL)

Time: 3 Hrs **Total Marks: 50**
Practical Marks: 40
Internal Assessment: 10

1. Conduct a Height/ Weight Survey on a sample of 25 School going children assessing their physical development.
2. Conduct a Case Study on a School going Child assessing his Motor Development, Social Development, Emotional Development and Language Development.
3. Prepare an Educational Toy suitable for a pre–school/ school going child.
4. Prepare a toy using house–hold material.
5. Exhibit appropriate safety measures for the child using posters or leaflets.

SEMESTER – I
PHYSICS

PAPER–A: MECHANICS

Time: 3 Hours **Marks: 40**
Total Teaching Hrs: 40 **Pass Marks: 35%**

Instructions for the Paper Setters:

Unit–I: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–II: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–III: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–IV: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–V: There will be ten questions of small answer type covering the syllabi of all the four units (I–IV). Eight questions are to be attempted. Each question will carry one mark.

MECHANICS

Unit–I

Cartesian and spherical polar co–ordinate systems, area, volume, velocity and Acceleration in these systems. Solid angle, Relationship of conservation laws and symmetries of space and time.

Unit–II

Various forces in Nature (Brief introduction) centre of mass, equivalent one body problem, central forces, equation of motion under central force, equation of orbit and turning points. Kepler Laws. Concept of Ether and Michel son–Morley experiment.

Unit–III

Inertial frame of reference. Galilean transformation and Invariance. Non Inertial frames, coriolis force and its applications. Variation of acceleration due to gravity with latitude. Focault pendulum.

Unit–IV

Elastic collision in Lab and C.M. system, velocities, angles and energies, crosss section of elastic scattering, Rutherford scattering. Rigid Body motion; Rotational motion, principal moments and Axes. Euler's equations, precession and elementary gyroscope.

Books Suggested:

1. Mechanics, Berkeley Vol.–I by C. Kittle.
2. Mechanics, H.S. Hans & S.P. Puri.

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SEMESTER – I

PHYSICS

PAPER–B: ELECTRICITY AND MAGNETISM

Time: 3 Hours **Marks: 40**
Total Teaching Hrs: 40 **Pass Marks: 35%**

Instructions for the Paper Setters:

Unit–I: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–II: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–III: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–IV: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–V: There will be ten questions of small answer type covering the syllabi of all the four units (I–IV). Eight questions are to be attempted. Each question will carry one mark.

Electricity and Magnetism

Unit–I

Basic ideas of Vector Calculus Gradient, Divergence, curl and their physical significance. Laplacian in rectangular, cylindrical and spherical coordinates. Coulomb's Law for point charges and countinuous distribution of charges. Electric field due to dipole, line charge and sheet of charge. Electric flux, Gauss's Law and its applications. Gauss's divergence theorem and differential form of Gauss's Law. Green's theorem.

Unit–II

Work and potential difference. Potential difference as line integral of field. Electric potential due to a point charge a group of point charges, dipole and quadrupole moments, long uniformly charged wire, charged disc. Stoke's theorem and its applications in Electrostatic field, curl E=0. Electric fields as gradient of scalar potential. Calculation of E due to a point charge and dipole from potential. Potential due to arbitrary charge distribution and multipole moments.

Unit–III

Poisson and Laplace's equation and their solutions in Cartesian and spherical coordinates. Concept of electrical images.Calculation of electric potential and field due to a point charge placed near an infinitely conducting sheet.Current and current density, equation of continuity. Microscopic form of Ohm's Law (J=□E) and conductivity, Failure of Ohm's Law. Invariance of charge.

Unit–IV

E in different frames of reference. Field of a point charge moving with constant velocity. Interaction between moving charges and force between parallel currents. Behaviour of various substances in magnetic field. Definition of M and H and their relation to free and bound currents. Permeability and susceptibility and their interrelationship. Orbital motion of electrons and diamagnetism.

Books Suggested:

1. Fundamentals of Electricity and Magnetism by Arthur F. Kipp.
2. Electricity and Magnetism, Berkeley Physics Course, Vol. II by E.M. Purcell.
3. Introduction to Classical Electrodynamics by David Griffith.
4. EM Waves and Radiating System by Edward C. Jordan and K.G. Balmain.
5. Fields and Waves Electromagnetic by David K. Cheng.

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SEMESTER – I
PHYSICS

PRACTICAL

Practical: (90 Hours.) **Marks: 20**

General Guidelines for Physics Practical Examination:

I. The distribution of marks is as follows :

i) One full experiment out of section – A requiring the student to take some data, analyse it and draw conclusions. (candidates are expected to state their results with limits of error) **06 Marks**

ii) Brief Theory **03 Marks**

iii) One exercise based on experiment (To be allotted by the external examiner at the time of examination) **05 Marks**

iv) Viva–Voce **03 Marks**

v) Record (Practical file) **03 Marks**

II. There will be one sessions of 4 hours duration. The paper will have two sessions. Section–A will consist of 8 experiments out of which an examinee will mark 6 experiments and one of these is to be allotted by the external examiner.

III. Section–B will consist of exercises which will be set by the external examiner at the spot. The length of the exercises should be such that any of these could be completed in one hour.

IV. The examiner should take care that the experiment allotted to an examinee from Section–A and exercise allotted from Section–B are not directly related to each other.

V. Number of candidates in a group for practical examination should not exceed 12.

VI. In a single group no experiment be allotted to more than three examiners in any group.

1. Exercise on fitting of given data to straight line and calculation of probable error.
2. To study the dependence of moment of inertia on distribution of mass (by noting time periods of oscillations using objects of various geometrical shapes but of same mass).
3. To establish relationship between torque and angular acceleration using fly wheel.
4. To find the moment of inertia of a flywheel.

5. Study of bending of beams and determination of young's Modulus.
6. Determination of Poissons or rubber plastic.
7. To find young's modulus, modulus of rigidity & Poisson ratio by Searle's method.
8. To study flow of water through capillary tubes of different length and area of cross section of (at least two each) and calculate coefficient of viscosity.
9. To determine energy transfer, coefficient of restitution and verify laws of conservation of linear momentum and kinetic energy in elastic collisions using one dimensional collisions of hanging spheres.
10. Melde's experiment.
11. Kundt's tube.
12. Measure time period as a function of distance of centre of suspension (oscillation) from centre of mass, plot relevant graphs, determine radius of gyration and acceleration due to gravity.
13. Find the value of g by Caterer's pendulum.
14. To compare the M.I. of solid & hollow sphere of same mass using tensional pendulum.
15. Measure time period of oscillation of a Maxwell needle and determine modulus of rigidity of the material of a given wire.
16. To measure obtain logarithmic decrement, coefficient of damping, relaxation time, and quality factor of a damped simple pendulum.

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SEMESTER – II
PHYSICS

PAPER–A: RELATIVITY AND ELECTROMAGNETISM

Time: 3 Hours **Marks: 40**
Total Teaching Hrs: 40 **Pass Marks: 35%**

Instructions for the Paper Setters:

Unit–I: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–II: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–III: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–IV: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–V: There will be ten questions of small answer type covering the syllabi of all the four units (I–IV). Eight questions are to be attempted. Each question will carry one mark.

Relativity and Electromagnetism

Unit–I

Postulates of special theory of relatively. Lorentz transformations, observer and viewer in relativity. Relativity of simultaneity, Length, Time, velocities. Relativistic Dopper effect. Variation of mass with velocity, mass–energy equivalence, rest mass in an inelastic collision, relativistic momentum & energy, their transformation, concepts of Minkowski space, four vector formulation.

Unit–II

Physical interpretation of Maxwell's equations, E.M. waves and wave equation in a medium having finite permeability and permitivity but with conductivity □=). Poynting vector, Impedance of a dielectric to EM waves. EM waves in a conducting medium and Skin depth. EM wave velocity in a conductor and anomalous dispersion. Response of a conducting medium to EM waves. Reflection and transmission of EM waves at a boundary of two dielectric media for normal and oblique incidence.

Unit–III

Lorentz's force, Definition of B. Biot Savart's Law and its application to long straight wire, circular current loop and solenoid. Ampere's Circuital law and its application. Divergence and curl of B.Hall effect, expression and co–efficient. Vector potential, Definition and derivation, current–density–definition, its use in calculation of charge in magnetic field at a current sheet. Transformation equation of E and B from one frame to another.

Unit–IV

Faraday's Law of EM induction, Displacement current, Maxwell's equations. Mutual inductance and reciprocity theorem. Self inductance, L for solenoid, Coupling of Electrical circuits. Analysis of LCR series and parallel resonant, circuits Q–factor, Power consumed, power factor.

Recommended Books:

1. Fundamentals of Vibrations and Waves by S.P. Puri.
2. Physics of Vibrations and Waves by H.J. Pain.
3. EM Waves and Radiating Systems by Edward C. Jordan and K.G. Balmain.
4. Fields and Waves Electromagnetic by David K. Cheng.

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SEMESTER – II

PHYSICS

PAPER–B: WAVES AND OSCILLATIONS

Time : 3 Hours **Marks : 40**
Total Teaching Hrs: 40 **Pass Marks : 35%**

Instructions for the Paper Setters:

Unit–I: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–II: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–III: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–IV: There will be two questions from this unit. Each question will carry eight marks. Only one question is to be attempted.

Unit–V: There will be ten questions of small answer type covering the syllabi of all the four units (I–IV). Eight questions are to be attempted. Each question will carry one mark.

Waves and Oscillations

Unit–I

Simply harmonic motion, energy of a SHO. Compound pendulum. Torsional pendulum Electrical Oscillations Transverse Vibrations of a mass on string, composition of two perpendicular SHM of same period and of period in ratio 1:2.

Unit–II

Decay of free Vibrations due to damping. Differential equation of motion, types of motion, types of damping. Determination of damping co–efficient– Logarithmic decrement, relaxation time and Q–Factor. Electromagnetic damping (Electrical oscillator).

Unit–III

Differential equation for forced mechanical and electrical oscillators. Transient and steady state behaviour. Displacement and velocity variation with driving force frequency, variation of phase with frequency, resonance. Power supplied to an oscillator and its variation with frequency. Q–value and band width. Q–value as an amplification factor. Stiffness coupled oscillators, Normal co–ordinates and normal modes of vibration. Inductance coupling of electrical oscillators.

Unit–IV

Types of waves, wave equation (transverse) and its solution characteristic impedance of a string. Impedance matching. Reflection and Transmission of waves at boundary. Reflection and transmission of energy. Reflected and transmitted energy coefficients. Standing waves on a string of fixed length. Energy of vibration string. Wave and group velocity.

Recommended Books:

1. Fundamentals of Vibrations and Waves by S.P. Puri.
2. Physics of Vibrations and Waves by H.J. Pain.
3. EM Waves and Radiating Systems by Edward C. Jordan and K.G. Balmain.
4. Fields and Waves Electromagnetic by David K. Cheng.

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SEMESTER – II
PHYSICS

PRACTICAL

Practical: (90 Hours.) **Marks: 20**

General Guidelines for Physics Practical Examination:

I. The distribution of marks is as follows :

- **(i)** One full experiment out of section – A requiring the student to take some data, analyse it and draw conclusions. (candidates are expected to state their results with limits of error) **06 Marks**
- **(ii)** Brief Theory **03 Marks**
- **(iii)** One exercise based on experiment (To be allotted by the external examiner at the time of examination) **05 Marks**
- **(iv)** Viva–Voce **03 Marks**
- **(v)** Record (Practical file) **03 Marks**

II. There will be one sessions of 4 hours duration. The paper will have two sessions. Section–A will consist of 8 experiments out of which an examinee will mark 6 experiments and one of these is to be allotted by the external examiner.

III. Section–B will consist of exercises which will be set by the external examiner at the spot. The length of the exercises should be such that any of these could be completed in one hour.

IV. The examiner should take care that the experiment allotted to an examinee from Section–A and exercise allotted from Section–B are not directly related to each other.

V. Number of candidates in a group for practical examination should not exceed 12.

VI. In a single group no experiment be allotted to more than three examiners in any group.

1. To determine low resistance with Carey Fosters Bridge.
2. To determine the resistance and specific resistance of copper with the help of Kelvin's double bridge.
3. To study the variation of resistance of a filament of a bulb with its temperature.

4. To study the magnetic field produced by a current carrying solenoid using a search coil and calculate permeability of air.
5. To study the induced e.m.f. as function of the velocity of the magnet.
6. Study of phase relationships using impedance triangler for LCR circuit and calculate impedance.
7. Resonance in a series and parallel LCR circuits for different R–value and calculate Q–value.
8. Capacitance by flashing and quenching of a neon lamp.
9. Measurement of Capacitance, determination of permittivity of a medium air and relative permitivity by de–Sauty's bridge.
10. To determined I using Anderson Bridge.
11. To find the coefficient of self inductance by Lay Leigh's Method.
12. To measure the charge sensitivity of a moving coil Ballistic galvanometer using a known capacitor.
13. To find the angle of dip in the lab using an earth inductor.
14. To find the value of B_H the horizontal component of earth's magnetic field in the lab using a deflection & vibration magnetometer.
15. To study the variation of magnetic field with distance along the axis of coil carrying current by plotting a graph.

Excercises:

Examiner will set the exercise related with experiment on the spot.

Text and Reference Books:

1. "Mechanical Systems" by B. Sarat et. al.
2. "A Laboratory Mannual of Physics for Undergraduate Classes" by D.P. Khandelwal.
3. "Elements of Statistics" by C.G. Lambe.
4. "Numerical Analysis" by C. Dizon.
5. "Schaum's Outline of Theory and Problems of Programming with FORTRAN" by S. Lipsdutz and A. Poe.
6. Fortran 77 and numerical methods by Xavier.

B.SC. GEOGRAPHY (GEOPHYSICS)

SCHEME

SEMESTER–I

Geophysics–I (General Geology)	**:**	**70 Marks** **Teaching Hours 70**
Lab Practicals	**:**	**30 Marks** **Teaching Hours 40**

SEMESTER–II

Geophysics–II (Geodynamics)	**:**	**70 Marks** **Teaching Hours 70**
Field Training	**:**	**30 Marks** **Teaching Hours 35**

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SEMESTER – I
B.SC. GEOGRAPHY (GEOPHYSICS)

GEOPHYSICS–I (GENERAL GEOLOGY)

Time: 3 Hours **Marks: 70**

Total Teaching Hours: 70 **Pass Marks: 35%**

Instructions for the Paper Setters:

Unit–I: There will be two questions from this unit. Each question will carry fourteen marks. Only one question is to be attempted.

Unit–II: There will be two questions from this unit. Each question will carry fourteen marks. Only one question is to be attempted.

Unit–III: There will be two questions from this unit. Each question will carry fourteen marks. Only one question is to be attempted.

Unit–IV: There will be two questions from this unit. Each question will carry fourteen marks. Only one question is to be attempted.

Unit–V: There will be ten questions of small answer type covering the syllabi of all the four units (1–4). Seven questions are to be attempted. Each question will carry two marks.

Unit–I

Rock forming minerals, different type of rock structures; igneous, sedimentary and metamorphic rocks, their formation, metamorphism and charcteristics. Rock weathering, growth and nature of soils.

Unit–II

Structural features: salt domes, plugs, igneous intrusions and volcanic eruptions.

Unit–III

Tectonic features: The classification and criteria for recognition of joints, folds and faults, Various types of joints faults and folds; normal fault, reverse or thrust fault, strike slip, transcurrent or wrench faults.

Unit–IV

The outline of geological formation and the rock types of India. Classification of mineral deposits. Distribution of minerals in India. Harozoic history of the Shivaliks of Himachal Pradesh (India).

Text & Reference Books:

1. Elements of Physical Geology by A. Holmes
2. Geology of India by D.N. Wadia
3. Ore Deposits of India by Gokhale and Rao
4. India's Mineral Deposits by Krishna Swamy
5. Historical Geology and Stratigraphy of India by Ravinder Kumar

LAB PRACTICALS

Marks: 30

Teaching Hrs. 40

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER – II
B.SC. GEOGRAPHY (GEOPHYSICS)

GEOPHYSICS–II (GEODYNAMICS)

Time: 3 Hours **Marks: 70**

Total Teaching Hours: 70 **Pass Marks: 35%**

Instructions for the Paper Setters:

Unit–I: There will be two questions from this unit. Each question will carry fourteen marks. Only one question is to be attempted.

Unit–II: There will be two questions from this unit. Each question will carry fourteen marks. Only one question is to be attempted.

Unit–III: There will be two questions from this unit. Each question will carry fourteen marks. Only one question is to be attempted.

Unit–IV: There will be two questions from this unit. Each question will carry fourteen marks. Only one question is to be attempted.

Unit–V: There will be ten questions of small answer type covering the syllabi of all the four units (1–4). Seven questions are to be attempted. Each question will carry two marks.

Unit–I

Composition, shape, size, mass and density of the earth. Various discontinuities in the earth. The variation of temperature, density, pressure and elastic parameter with depth in the earth. Seismic waves and interior of the earth. Mineralogical and chemical composition of the crust, mantle and core.

Unit–II

Introduction to geochronology, closed and open system, uranium–lead, thorium–lead and lead–lead method of dating minerals and rocks, Rubidium–strontium, potassium–argon and fission tracks dating of rocks.

Unit–III

Major sources of heat inside the earth since the time of accretion. Radioactive heating in the earth, distribution of long lived radioactive elements in crustal rocks. Measurement of continental and sub oceanic heat flow. Importance of heat flow studies. Thermal history of the earth.

Unit–IV

Concept of plate and plate motion, Types of continental margin, transform faults, triple junction, Geodynamics of Indian plate, Formation of Himalayas.

Text & Reference Books:

1. The solid earth introduction of global geophysics by C. Fowler.
2. Interior of the earth by H.P. Bott.
3. Physics of the earth by F.D. Stacey.
4. Platetectonics and crustal evolution by Kent C. Condie.
5. Earth's age and geochronology by D. York and R.M. Farquhar.
6. Introduction to geophysics by Howell.
7. Geodynamics of India and Pakistan by R.K. Verma.
8. Physics and Geology by Jacobs, Russell and Wilson.

FIELD TRAINING

Marks: 30

Teaching Hrs. 35

B.A./B.Sc. (Semester System) (12+3 System of Education)

(Faculty of Life Sciences)

ZOOLOGY (SEMESTER SYSTEM)

SCHEME

Paper	Maximum Marks		Hours of Teaching	
	Theory Marks	**Practical Marks**	**Theory**	**Practical**
SEMESTER – I			**Credit Hrs. (60 min. each)**	**per Week**
ZOO – I	75	25	6 Hrs	4.5 Hrs
(Cell Biology & Biodiversity – I)				
SEMESTER – II				
ZOO – II	75	25	6 Hrs	4.5 Hrs
(Ecology & Biodiversity – II)				

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SEMESTER – I
ZOO–I: CELL BIOLOGY AND BIODIVERSITY – I

Time: 3 Hrs. **Marks: 75**

Cell Biology

UNIT – I

1. Methods in Cell Biology.
   Principles of light, phase contrast and electron microscopy,
   Fixation and fixatives
   Staining techniques.
2. Organization of Cell: Extra nuclear and nuclear, ultrastructure and functions of cell organelles
   (a) Plasma Membrane: Structure, osmosis, active and passive transport, endocytosis and exocytosis.
   (b) Endoplasmic reticulum: Structure, types and associated enzymes.
   (c) Mitochondria: Structure, mitochondrial enzymes and role of mitochondria in respiration and mitochondrial DNA.

UNIT – II

Organization of Cell (contd.)
   (d) Golgi complex: Structure and functions.
   (e) Ribosomes : Types of ribosomes, their structure and functions.
   (f) Lysosomes: Polymorphism and their function.
   (g) Centrosome: Structure and functions.
   (h) Nucleus: Structure and functions of nuclear membrane, nucleolus and chromosomes.
3. An elementary idea of cell transformation in cancer.
4. An elementary idea of cellular basis of immunity.

Biodiversity–I (Protozoa to Annelida)
Detailed Type study of the following animals:

UNIT – III

Protozoa: *Amoeba, Paramecium* and *Plasmodium.* Introduction to Parasitic Protozoans.
Parazoa (Porifera): *Sycon*
Cnidaria (Coelentrata): *Obelia*

UNIT – IV

Platyhelminthes: *Fasciola, Taenia*
Aschelminthes: *Ascaris,* Parasitic adaptations in Helminthes
Annelida: *Pheretima* (earthworm)

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*Detailed classifications to be dealt in the Practicals.

SEMESTER – I
PRACTICAL–I (RELATED TO ZOO – I)

Time: 3 Hrs. **Marks: 25**

I. Classification up to orders with ecological notes and economic importance (if any) of the following animals (Through Specimens or slides):

A. **Protozoa.** *Amoeba, Euglena, Trypanosoma, Noctiluca, Eimeria, Monocystis, Paramecium Opalina, Vorticella, Balantidium, Nyctotherus* and *Polystomella.*

B. **Parazoa.** *Sycon, Grantia, Euplectella, Hyalonema, Spongilla, Euspongia.*

C. **Cnidaria.** *Porpita, Velella, Physalia, Aurelia, Rhizostoma, Metridium, Millipora, Alcyonium, Tubipora, Zoanthus, Madrepora, Favia, Fungia and Astrangia.*
Hydra (W.M.), *Hydra* with buds, *Obelia* (colony and medusa), *Sertularia, Plumularia, Tubularia, Bougainvillea* and *Aurelia*

D. **Platyhelminthes.**
Dugesia, Fasciola, Taenia, Echinococcus.
Miracidium, Sporocyst, Redia, Cercaria of *Fasciola,* scolex and proglottids of *Taenia* (mature and gravid).

E. **Aschelminthes.** *Ascaris* (male and female), *Trichinella, Ancylostoma.*

F. **Annelida**. *Pheretima, Nereis, Heteronereis, Polynoe, Eunice, Aphrodite, Chaetopterus, Arenicola, Tubifex* and *Pontobdela*

2. **Study of the following permanent stained preparations**:

A. L.S. and T.S. *Sycon,* gemmules, spicules and spongin fibers of a sponge.

B. T.S. *Hydra* (Testis and ovary region)

C. T.S. *Fasciola* (Different regions)

D. T.S. *Ascaris* (Male and Female)

E. T.S. *Pheretima* (pharyngeal and typhlosolar regions), Setae, septal nephridia, spermathecae and ovary of *Pheretima* (Earthworm).

3. **Preparation of the following slides**:
Temporary preparation of freshwater Protozoan culture.

4. **Dissection of the following animals**:

A. *Pheretima* (earthworm): Digestive, reproductive and nervous systems.
Teacher to demonstrate the dissection and students are to put flags on various systems. The same practice can be followed in the examination also.

5. **Cell Biology:**

A. Paper chromatography.

B. Gel electrophoresis through photographs or through research laboratories

C. Familiarity with TEM & SEM.

D. Study of different ultra structures of cell organelles through photographs.

6. Students must be taken out to study vermin–composting unit.

SEMESTER – II
ZOO–II: ECOLOGY & BIODIVERSITY – II

Time: 3 Hrs. **Marks: 75**

Ecology and Environment Biology:

UNIT – I

Ecology: Definition, Subdivisions and scope of ecology.
Ecosystem: Components, ecological energetics, food web, major ecosystems of the world.
Ecological factors: Temperature, light and soil as ecological factors.
Nutrients: Biogeochemical cycles and concept of limiting factors.
Ecological Adaptations: Morphological, physiological and behavioural adaptations in animals in different habitats.

UNIT – II

Population: Characteristics and regulations of population. Inter and Intra Specific relationship: Competition, Predation, Parasitism, Commensalism and Mutualism.
Biotic community: Characteristics, ecological succession, ecological niche.
Natural resources: Renewable and nonrenewable natural resources and their conservations.
Environmental Issues: Causes, impact and control of environmental pollution.

Biodiversity –II (Arthropoda to Hemichordata)
Detailed Type study of the following animals:

UNIT – III

Arthropoda: *Periplaneta* (cockroach), Prawn, Social organizations in insects (honey bee and termite)
Mollusca: *Pila*

UNIT – IV

Echinodermata: *Asterias* (star fish), Echinoderm larvae
Hemichordata: *Balanoglossus (*External characters and affinities only).

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SEMESTER – I
PRACTICAL–II (RELATED TO ZOO – II)

Time: 3hrs. **Marks: 25**

1. **Classification up to orders with ecological notes and economic importance (if any) of the following animals** :

A. Arthropoda : *Peripatus, Palaemon* (prawn), *Lobster, Cancer* (crab), *Sacculina, Eupagurus* (hermit Crab), *Lepas, Balanus,* Cyclops, *Daphnia, Lepisma, Periplaneta* (cockroach), *Schistocerca* (locust), *Poecilocerus* (ak grasshopper), *Gryllus* (cricket), *Mantis* (praying mantis), *Cicada, Forficula* (earwig), Dragonfly, Termite queen, Bug, Moth, Beetles, Polistes, (wasp), *Apis* (honey bee), *Bombyx, Pediculus* (body louse) Millipede and Centipede, *Palamnaeus* (scorpion), *Aranea* (spider) and *Limulus* (king Crab).

B. Mollusca: *Anodonta, Mytilus, Ostrea, Cardium, Pholas, Solen* (razor fish), Pecten, *Haliotis, Patella, Aplysia, Doris, Limax, Loligo, Sepia, Octopus, Nautilus* shell (Complete and T.S.), *Chiton, Dentalium.*

C. Echinodermata : *Asterias, Echinus Ophiothrix, Antedon.*

D. Hemichordata : *Balanoglossus.*

2. **Study of the following permanent stained preparations**:

A. Insect trachea, mouth parts of *Periplaneta* (cockroach)

B. Radula and osphradium of *Pila*

C. T.S. Star fish (Arm).

3. **Preparation of the following slides**:
Demonstration of preparation of Mouth parts of *Periplaneta* (cockroach).

4. **Dissection of the following animals**:
Periplaneta (cockroach): Digestive and nervous systems, mouth parts and trachea.
Teacher to demonstrate the dissection of Pila and Prawn also and students are to put flags on various systems. The same practice can be followed in the examination also.

5. **Ecology**:

A. Study of animal adaptation with the help of specimens, charts and models.

B. Study of biotic components of an ecosystem.

C. Study of different types of nests in birds.

D. Study and preparation of Zoogeographical charts.

Instructions for Students and for Examiners

Theory Paper

Instructions for the Paper Setters:

There will be a total of 9 questions.
Question 1 will be compulsory and will be of 10 short answer type. **(1.5x10=15)**
The remaining 8 questions shall include 2 questions from each unit. Candidates shall be required to attempt 1 question from each unit. All questions shall have equal marks **(15x04=60).**

Important Note for Practicals:

1. Candidates will be required to submit their original note books containing record of their laboratory work.
2. Wherever possible, students must be taken out for excursion to the field (Zoological gardens, sea shores, ponds and hill stations etc.) to study habitat and ecology of the animals.
3. As per the latest UGC guidelines the dissections may please be avoided. In no case an animal falling under the categories of wildlife protection act 1972 should be caught or dissected. The rules of the Prevention of cruelty to Animals act 1960 should be familiar to all who are teaching the zoology courses. The guidelines on this issue are also available on the UGC website: www.ugc.ac.in

Suggested Readings:

1. Alberts, B., Bray, D., Lewis, J., Raff, M. Roberts, K., Watson J.D. Molecular Biology of the Cell, Garland Publ. Inc., New York, 1998.
2. Barnes, R.D., Invertebrates Zoology. W.B. Saunder, Philadelphia, 1999.
3. De Robertis, E.D.P. De Robertis, E.M.F. Cell Biology and Molecular Biology (Eighth Edition), W.B. Saunders Co., Philadelphia, 1995.
4. Dhami, P.S. & Dhami, J. K., Invertebrates, R. Chand & Co., New Delhi, 2001.
5. Odum, E.P., Fundamentals of Ecology, W.B. Saunders Co., Philadelphia, 1995.
6. Kormondy, E.J., Concept of Ecology, Englewood Cliffs, N.J. Prentice Hall Inc., 1975.
7. Kreb C.J., Ecology, Harper & Row, New York, 1982.
8. Pawar, C.B., Cell Biology, Himalaya Publishing House, Bombay, 1999.

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SEMESTER–I
MICROBIOLOGY

FUNDAMENTALS OF MICROBIOLOGY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

Unit–I

1. **Introduction and Scope of Microbiology:** Discovery of microorganisms, history of microbiology, controversy over spontaneous origin or microorganisms, discovery of anaerobic life, germ theory of fermentation as life without oxygen, germ theory of disease.
2. **Characterization and Identification of Microorganisms:** Place of microorganisms in living world, Hackel's and Whittaker's system of classification, prokaryotic and eukaryotic cells, characteristics of main groups of microorganisms.

Unit–II

3. **Methods in Microbiology :** Bright field microscopy and its applications, Methods of sterilization, preparation of a culture media, pure culture concept, staining technhiques of bacteria such as simple, negative and differential methods.
4. **Structure of Bacteria:** Fine structure of bacterial cell, cell wall, cell membrane, capsule, pili, flagella, ribosomes, Cytoplasmic inclusions, Bacterial movement, Endospore and physiology of endospore formation.

Unit–III

5. **Nutrition :** Nutritional requirements of microorganisms, nutritional types of bacteria, autotrophs, heterotrophs, parasites, types of culture media, differential media, and selective media enrichment media. Control of microorganisms by physical, chemical and chemotherapeutic agents.
6. **Reproduction and Growth in Microorganisms:** Modes of cell division, growth curve of bacteria, continuous culture, synchronous growth, quantitative measurement of bacterial growth, Effect of various factors on growth of bacteria.

Unit–IV

7. Reproduction and Growth in Microorganisms: Modes of cell division, growth curve of bacteria, continuous, culture, synchronous growth, quantitative measurement of bacterial growth effect of various factors on growth of bacteria, DNA as genetic material.
8. **Clinical Microbiology:** Epidemiology reservoirs and modes of transmission of infectious diseases. Pathogenesis, diagnosis and treatment of common bacterial and viral diseases in humans.

Books Recommended:

1. Pelczar, M.I., Chan, E.C.S. and Krieg, N.R. 1993, Microbiology. Tata McGraw Hill Publishing Co., Ltd., New Delhi.
2. Stanier, R.Y., Ingraham, J.L., Wheelis, M.L. and Painter, P.R. 1986, General Microbiology, MacMillan Education Ltd. Publisher.
3. Powar, C.B. and Dagniwala, H.F. 1992, General Microbiology, Volume I and II, Himalaya Publishing House, Delhi.
4. Sharma, P.D. 1997, Microbiology, Rastogi Publications, Meerut.

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SEMESTER–I
MICROBIOLOGY

PRACTICALS

Time: 4 Hours **Marks: 25**

1. To study the essentials of a Microbiology laboratory.
2. To study various parts of a laboratory microscope.
3. To study various sterilization techniques.
4. To prepare the cultures media for the cultivation of various microorganisms.
5. To study various laboratory techniques for the cultivation and isolation of pure cultures of microorganisms.
6. To perform the simple staining of bacterial cell.
7. To perform the differential staining of bacterial cell.
8. To study the typical growth curve of bacteria.

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SEMESTER–II
MICROBIOLOGY

BASIC FOOD MICROBIOLOGY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

Unit–I

1. Food as a substrate for microorganisms, intrinsic and extrinsic factors affecting the growth of various microorganisms in foods. Microorganisms important in food microbiology–bacteria, yeasts and molds, sources of contamination in foods.

Unit–II

2. Fermented foods, origin of fermentation as a method of preparing indigenous foods, bread, dosa idli, warri, temper miso.

Unit–III

3. Principles of food preservation and spoilage, asepsis, anaerobic conditions, aseptic packaging, preservation methods, high temperature, low temperature, drying, chemical preservatives.

Unit–IV

4. Spoilage of various milk and milk products, cereal and cereal products, vegetable and fruits, meat and meat products, canned foods. Food poisoning and food infection. *Staphylococcal, Clostridium* and *Salmonella* intoxications.

Books Recommended:

1. Frazier. W.C. and Westhoff, D.C. 1978, Food Microbiology, Tata McGraw Hill Publishing Co., Ltd., New Delhi.
2. Banwart, G.J., 1987, Basic Food Microbiology, CBS Publishers and Distributions, New Delhi.
3. Powar, C.B. and Dagniwala, H.F. 1992. General Microbiology Volume II. Himalaya Publishing House, New Delhi.

SEMESTER–II
MICROBIOLOGY

PRACTICAL

Time: 4 Hours **Marks: 25**

1. To enumerate the total microbial cells in a suspension by serial dilution and pour plating.
2. To enumerate the total bacteria in milk by direct microscopic count.
3. To measure the size of microbial cells by ocular micrometer.
4. To study the morphology of bacteria, yeasts and molds.
5. To check the bacteriological quality of raw milk by methylene blue reduction test.

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SEMESTER–I
INDUSTRIAL MICROBIOLOGY (VOCATIONAL)

INTRODUCTION TO MICROBIOLOGY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

Unit–I

1. Introduction and scope of microbiology: Historical background of Microbiology (In brief). Difference between prokaryotic and eukarotic microorganisms.
2. Methods in Microbiology. Bright field microscopy and its application in Microbiology, Methods of sterilization, concept of media and its preparation i.e. broth, solid and semisolid, Staining of bacteria Simple and Gram's staining to differentiate G(+) and (G–) bacteria. Isolation of pure cultures using techniques like pour plating, streaking, spreading and serial dilution. Maintenance and preservation of cultures and culture collections.

Unit–II

3. Morphology and basic structure of bacteria, Fungi and Virus. Life cycle of bacteria, yeast, fungi and virus.
4. Reproduction and growth in microorganisms, Mode of cell division, Growth Curve of bacteria, continuous and synchronous culture, Quantitative measurement of bacterial growth, Effect of various factors on growth of bacteria. Control of microorganisms by physical methods.

Unit–III

5. Basic concepts of microbial genetics (In brief). Structure of DNA, RNA and protein, replication, transcription and translation. Concept of gene and mutations.

Unit–IV

6. Clinical microbiology: Epidemiology, reservoirs and mode of transmission of infectious diseases. Pathogenesis, diagnosis and treatment of common bacterial and viral diseases in man.

Books Recommended:

1. Pelczar, M.I., CJam, E.C.S. and Krieg, N.R. 1993, Microbiology. Tata McGraw Hill Publishing Co., Ltd., New Delhi.
2. Stanier, R.Y., Ingraham, J.L., Wheelis, M.L. and Painter, P.R. 1986, General Microbiology, MacMillan Education Ltd. Publisher.
3. Powar, C.B. and Dagniwala, H.F. 1992, General Microbiology, Volume I and II, Himalaya Publishing House, Delhi.
4. Sharma, P.D. 1997, Microbiology, Rastogi Publications, Meerut.

SEMESTER–I
INDUSTRIAL MICROBIOLOGY (VOCATIONAL)

PRACTICALS

Time: 4 Hours **Marks: 25**

1. To study the essential of a Microbiology laboratory.
2. To study various part of a laboratory microscope.
3. To study various sterilization techniques.
4. To prepare the culture media for the cultivation of various micro–organisms.
5. To study various laboratory techniques for the cultivation and isolation of pure culture of micro–organisms.
6. To perform simple staining of bacterial cell.
7. To perform the differential staining of bacterial cell.

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SEMESTER–II
INDUSTRIAL MICROBIOLOGY (VOCATIONAL)

INTRODUCTION TO FOOD MICROBIOLOGY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

Unit–I

1. Food as a substrate for microorganisms, intrinsic and extrinsic factors affecting the growth of various microorganisms in foods.

Unit II

2. Microorganisms important in food microbiology: bacteria, yeast and molds, sources of contamination in foods.
3. Fermented foods, fermentation as a method of preparing indigenous foods, bread, dosa idli, warri, soy sauce, miso.

Unit–III

4. Principles of food preservation and spoilage, asepsis, anaerobic conditions, aseptic packaging, preservation methods, high temperature, low temperature, drying, irradiation and chemical preservatives.

Unit–IV

5. Spoilage of various milk and milk products, cereal and cereal products, vegetable and fruits, eggs, canned foods and meat and meat products.
6. Food polsoning and food infection. Staphylococal Chlostridrium and Salmonella intoxication.

Books Recommended:

1. Jay, J.M. 1986, Modern Food Microbiology, 3rd edition, an Nostrand Reinhold.
2. Banwari, G.J., 1989, Basic Food Microbiology, CBS Publishers and Distributions, New Delhi.
3. Frazier, W.C. and Westhoff, D.C. 1995, Food Microbiology, Tata McGraw Hill Publishing Co., Ltd., New Delhi.

SEMESTER–II
INDUSTRIAL MICROBIOLOGY (VOCATIONAL)

PRACTICALS

Time: 4 Hours **Marks: 25**

1. To study the practical growth curve of bacteria
2. To enumerate the total microbial cells in a suspension by the serial dilution and pour plating.
3. To enumerate the total bacteria in milk by direct microscopic count.
4. To measure the size of microbial cell by ocular micrometer.
5. To study the morphology of bacteria, yeast and molds.
6. To check the bacteriological quality of raw milk of methlene blue the reduction test.

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SEMESTER–I
MICROBIAL & FOOD TECHNOLOGY

FUNDAMENTALS OF MICROBIOLOGY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

Unit–I

Introduction and Scope of Microbiology: Discovery of Microorganism, history of microbiology, controversy over spontaneous origin or microorganism, discovery of anaerobic life, germ theory of fermentation, fermentation as life without oxygen, germ theory of disease. Differences between prokaryotic and Eukaryotic cells, characteristics of main groups of microorganism (Bacteria, fungi, yeast, Virus).

Unit–II

Methods in Microbiology: Bright field microscopy and its application in Microbiology, Methods of sterilization, preparation of a culture media, pure culture concept, staining of bacteria.

Structure of Bacteria: Cell wall, cell members, capsule, pili, flagella, bacterial movement, endospore.

Unit–III

Nutrition: Nutritional requirements of Microorganisms, nutritional types of bacteria, autotrophs, heterotrophs, parasites, types of culture media, differential media, and selective media, enriched media.

Reproduction and Growth in Microorganisms: Modes of cell division, growth curve of bacteria, continuous culture, synchronous growth, quantitative measurement of bacterial growth, effect of various factors on growth of bacteria.

Unit–IV

Mutations and their chemical basis, DNA as genetic material, recombination in prokaryotes by transformation and conjugation transduction, bacterial plasmids.

Control of Microorganisms: Control of microorganisms by physical, chemical and chemotherapeutic agents.

Books Recommended:

1. Pelczar, M.I., Chan, E.C.S. and Krieg, N.R. 1993. Microbiology. Tata McGraw Hill Publishing Col. Ltd., New Delhi.
2. Stanier, R.Y., Ingraham, J.L., Wheels, M.L. and Painter, P.R. 1986. General Microbiology, MacMillan Education Ltd. Publisher.
3. Power, C.B. and Dagniwala, H.F. 1992, General Microbiology, Volume I and II. Himalaya Publishing House, Delhi.
4. Sharma, P.D. 1997. Microbiology, Rastogi Publications, Meerut.

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SEMESTER–I
MICROBIAL & FOOD TECHNOLOGY

FUNDAMENTAL AND FOOD MICROBIOLOGY (PRACTICAL)

Time: 4 Hours **Marks: 25**

1. To study the essential of a Microbiology laboratory.
2. To study various part of a laboratory microscope.
3. To study various sterilization techniques.
4. To prepare the culture media for the cultivation of various micro–organisms.
5. To study various laboratory techniques for the cultivation and isolation of pure culture of micro–organisms.
6. To perform simple staining of bacterial cell.
7. To perform the differential staining of bacterial cell.

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SEMESTER–II
MICROBIAL & FOOD TECHNOLOGY

FUNDAMENTALS OF FOOD PROCESSING AND TECHNOLOGY

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Papers Setters:

There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer type (3–4 lines). However no multiple choice one–word answer type questions shall be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt one question from each of the four units. They will have to attempt five questions in all and all questions will carry equal marks.

Unit–I

Cereal & Cereal Products: Structure and composition of wheat and rice, milling of wheat, shelling and polishing rice, Preparation of bread by straight dough, sponge dough & continuous methods.

Oil & Fats Technology: Rendering Pressing, Solvent extraction, refining & hydrogenation.

Unit–II

Milk & Milk Products Technology: Standardized milk, Toned milk, Double toned milk Clarification, Pasteurization & Homogenization of milk. Manufacturing of procured cheese, cheddar cheese, Fermented milks (Cultured butter–milk, yogurt, Acidophilus milk, Kefir & Kumiss).

Unit–III

Fruit & Vegetable Technology: Canning, Preparation of vinegar, Jam, Jellies & Pickles. **Egg, Meat & Fish Technology**: Preservation mehods of egg, spray drying of egg. Tenderization and curing of meat, dressing of poultry, Rigor mortis of fish, preservation methods of fish.

Unit–IV

Spices & Flavour Technology: List of major & minor spices of India, Traditional & Cryo milling of spices. Preparation of oleoresins, essential oils, spice decoctions & encapsulated spices.

Food Packaging Technology: Types of containers, (Primary, Secondary & Tertiary) Form–fill–seal packaging, Aseptic packaging Food packaging materials & forms glass containers, laminates, metal cans & Retortable pouches.

Books:

1. Lal G., Siddappa, G.S. & Tandon G.L. Preservation of fruits & vegetables. Publication & Information Division. I.C.A.R., New Delhi.
2. Desrosier N.W. & Desrosier J.N. The technology of food preservation, 4th edition. CBS Publishers & Distributors.
3. Sukumar De. Outlines of Dairy Technology. Oxford University Press.
4. Potter N.N. & Hotehkiss J.H. Food Science, 5th edition CBS Publishers & Distributors.
5. Manay N.S. & Shadaksharaswamy M. Foods Facts & Principles. New Age International Ltd., Publishers.
6. Kent, N.L. Technology of Cereal Processing.

SEMESTER–II
MICROBIAL & FOOD TECHNOLOGY

FUNDAMENTAL AND FOOD MICROBIOLOGY (PRACTICAL)

Time: 4 Hours **Marks: 25**

1. To enumaerate the total number of bacteria by direct microscopic count.
2. To measure the size of microbial cell by ocular micrometer.
3. To study the morphology of bacteria, yeast and molds.
4. To check the bacteriological quality of raw milk of methlene the reduction test.
5. To study the typical growth curve of Bacteria.

B.A./B.Sc. (Semester System) (12+3 System of Education)
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HUMAN GENETICS

SCHEME OF STUDIES

	Marks		Total	Total
	Theory	**Pract.**	**Marks**	**Hours**
SEMESTER–I				
Introduction to Human Genetics	75	–	75	60
Fundamentals of Human Genetics (Practical)	–	25	25	50
Total:	**75**	**25**	**100**	**–**
SEMESTER–II				
Human Anatomy, Physiology and Embryology	75	–	75	60
Fundamentals of Human Anatomy, Physiology and Embryology (Practical)	–	25	25	50
Total:	**75**	**25**	**100**	–

B.A./B.Sc. (Semester System) (12+3 System of Education)
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SEMESTER–I
HUMAN GENETICS

INTRODUCTION TO HUMAN GENETICS

Time: 3 Hours **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
1. The Question paper should be set strictly according to the syllabus.
2. A total of nine questions should be set.
3. The candidates will be required to attempt five questions in all.

Section–A: It should comprise one question to be compulsorily attempted and cover the entire syllabus. There should be ten parts, each part carrying one and a half marks, the total weightage being 15 marks. Each part is to be attempted in 50 words (1½ pages).

Section–B: The other eight questions should be so designed that two questions are set from each unit. The candidates are required to attempt four questions i.e. one question from each unit. Each question will be divided into two parts, and each part will carry 7½ marks and should be attempted in 500 words (3 pages), total weightage being 60 marks. These questions can be subdivided into parts at the discretion of the examiner.

Unit–I

Definition of growth, Laws of growth and development, Assessment of growth, Growth curves, Factors affecting growth, Classification of physique by external body form – Viola, Kretschmer, Sheldon and Heath–Carter system in brief, Methods of studying body composition.

Unit–II

Mendel's principles, Modes of inheritance, Gene interaction – Epistasis, Modifying, Lethal genes, Codominance with reference to ABO, MN system, Segregation ratios, Phenocopy, Concordance and Disconcordance, Cytoplasmic inheritance, Sex chromatin, Sex linkage, Basic concepts of linkage, Recombination and gene mapping.

Unit–III

Blood group substances (ABO and secretor factor), Amino acid substitutions with reference to haemoglobin variants, Garrod's inborn errors of metabolism (Alkaptonuria, Pheynylkeptonuria, Galactossemia, G6PD deficiency and β–thalassemia). Hardy–Weinberg law, Factors affecting it and its applications, Basic concepts of genetic polymorphism.

Unit–IV

Chromosome structure, Molecular organization, Variation in number and structure. Cell division – Mitosis, Meiosis, Difference in male and female meiosis. Somatic cell hybridization, Introduction to prenatal diagnosis, Forensic analysis from blood group markers, Paternity exclusion, DNA fingerprinting, Pedigree analysis.

Books Recommended:

1. Brown, T.A. (1992). Genetics: A Molecular Approach. Van Nostrand Reinhold Co., Amsterdam.
2. Cummings, M.R. (2009). Human Genetics. Cenage Learning, USA.
3. Gardner, E.J. (2008). Human Genetics. Viva Books Pvt. Ltd., India.
4. Ghai, O.P., Gupta, P. and Paul, V.K. (2005). Essential Pediatrics. CBS Publishers and Distributors, New Delhi.
5. Griffiths, A.J.F., Wessler, S., Lewontin, R. and Carrol, S. (2006). Introduction to Genetic Analysis. W.H. Freeman and Co.
6. Harris, H. (1990). The Principles of Human Biochemical Genetics. Elsevier–North Holland, New York.
7. Lewis, R. (2007). Human Genetics. W.C.B. Publishers, England.
8. Mange, E.J and Mange, A. P. (1994). Basic Human Genetics. Sinaur Associates, Inc., Massachusetts.
9. Snustad, D.P. and Simmons, M.J. (2010). Principles of Genetics. John Wiley and Sons, Inc., New York.
10. Ulijaszek S.J., Johnston and Preece, M.A. (1998). Human Growth and Development; The Cambridge Encyclopedia. Cambridge University Press.

SEMESTER – I
HUMAN GENETICS

FUNDAMENTALS OF HUMAN GENETICS (PRACTICAL)

Time: 3 Hours **Marks: 25**

Numericals based on Mendelian and Hardy–Weinberg principles. Human morphogenetic traits, Barr body analysis in buccal smear. Blood grouping for ABO and Rh, Karyotype solid–stained and G–banded metaphase from photographs, Pedigree analysis.

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SEMESTER – II

HUMAN GENETICS

HUMAN ANATOMY, PHYSIOLOGY AND EMBRYOLOGY

Time: 3 Hours **Total Marks: 100**

Theory Marks: 75

Practical Marks: 25

Instructions for the Paper Setters:

1. The Question paper should be set strictly according to the syllabus.
2. A total of nine questions should be set.
3. The candidates will be required to attempt five questions in all.
4. **Section–A**: It should comprise one question to be compulsorily attempted and cover the entire syllabus. There should be ten parts, each part carrying one and a half marks, the total weightage being 15 marks. Each part is to be attempted in 50 words (1½ pages).
5. **Section–B**: The other eight questions should be so designed that two questions are set from each unit. The candidates are required to attempt four questions i.e. one question from each unit. Each question will be divided into two parts, and each part will carry 7½ marks and should be attempted in 500 words (3 pages), total weightage being 60 marks. These questions can be subdivided into parts at the discretion of the examiner.

Unit–I

Anatomical positions – Superior, inferior, anterior, posterior, medial, lateral, proximal, distal, external, internal, parietal, visceral, cavities and planes of human body. Skeletal system – Type of bones, histology, ossification, growth, repair of bone, types of joints, and types of movements at joints. Muscular system – Structure of cardiac, skeletal, smooth muscle, neuromuscular junction and physiology of muscular contraction. Digestive system – Gross anatomy constituent parts, physiology of digestion and absorption, taste receptors and gustatory pathway.

Unit–II

Heart and circulatory system – Structure of heart, cardiac cycle, relation of cardiac output and blood pressure, types of blood vessels, overview of arterial and venous blood supply. Respiratory system – Gross anatomy constituent parts, pulmonary ventilation, external and internal respiration, role of hemoglobin in oxygen and carbon dioxide transport, regulation of respiration, olfactory receptors and olfactory pathway. Lymphatic system – Overview of system and functions.

Unit–III

Nervous system – Gross anatomy spinal cord, brain, autonomic nervous system, reflex action, ascending and descending tracts, functions of brain, spinal cord, autonomic nervous system. Special senses – Structure and function of eye, ear, touch receptor. Endocrine gland – Brief description of structure and function of Pineal, Pituitary, Thyroid, Parathyroid, Adrenal, Pancreas.

Unit–IV

Urinary system – Anatomy of urinary system, structure of nephron and function of kidney in urine formation and maintaining acid–base balance. Reproductive system – Anatomy of male and female reproductive system, Hormonal control of male and female reproductive physiology. Embryology – Fertilization, conception, development of embryo till somite formation and fate of three germ layers.

Books Recommended:

1. Guyton's (2008). Human Physiology.
2. Ross and Wilson (2009). Anatomy and Physiology. ELBS Publication.
3. Singh, I.B. (2000). Human Embryology. Macmillan Co. New Delhi.
4. Tortora, G.J. and Grabowski, S.R. (2008). Principles of Anatomy and Physiology. Harper Collins College Publishers, USA.
5. Waugh, A.R. and Grant A.W. (2006). Human Anatomy and Physiology in Health and Illness. Churchill Livingstone, USA.

SEMESTER – II
HUMAN GENETICS

FUNDAMENTALS OF HUMAN ANATOMY, PHYSIOLOGY AND EMBRYOLOGY PRACTICAL

Time: 3 Hours **Marks: 25**

Skull – different views, Vertebrae, Sternum, Scapula, Bones of upper and lower limbs, Innominate, Clavicle, Sex differentiation in skull, innominate, sacrum, Slides of embryological stages. Estimation of Hb, Bleeding time, Clotting time, TLC, Blood pressure and pulse rate.

B.A./B.Sc. (Semester System) (12+3 System of Education)

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BOTANY

		Hours of Teaching		Marks	
		Theory	**Practical**	**Theory**	**Practical**
Semester–I:	Diversity of Microbes & Cryptogams	60	100	75	25
Semester–II:	Cell Biology & Genetics	60	100	75	25
	Total:	120	200	150	50

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Life Sciences)

SEMESTER – I
BOTANY

DIVERSITY OF MICROBES AND CRYPTOGAMS

Time: 3 Hrs. **Max. Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:

There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer–type (3–4 lines). No multiple choice questions, answer of one–word answer type be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt 1 question from each of the 4 units. All questions (including Q. No. 1) will have equal marks.

Unit–I

Algae: General characters, classification and economic importance, important features and life history of Chlorophyceae–*Volvox, Oedogonium*, *Coleochaete*, Xanthophyceae–*Vaucheria*; Phaeophyceae–*Ectocarpus, Sargassum*; Rhodophyceae–*Polysiphonia*.

Unit–II

Viruses and Bacteria: General account of viruses and mycoplasma; bacteria–structure, nutrition, reproduction and economic importance; general account cyanobacteria. Fungi: General characters, classification and economic importance; important features and life history of Mastigomycotina–*Pythium*
Phytophthora; Zygomycotina–*Mucor,* Ascomycotina–*Saccharomyces, Eurotium, Chaetuomium. Peziza;* Basidiomycotina–*Puccinia, Agaricus;* Deuteromycotina–*Cercospora. Colletotrichum;* general account of Lichens.

Unit–III

Bryophyta: Amphibians of plants kingdom displaying alternation of generations; structure, reproduction and classification of Hepaticopsida (e.g. *Marchantia*); Anthocerotopsida *(e.g. Anthoceros),* Bryopsida *(e.g. Funaria).*

Unit–IV

Pteridophyta: The first vascular plant; important characteristics of Psilopsida, Lycopsida, Sphenopsida and Pteropsida; structure, reproduction in *Rhynia, Lycopodium Selaginella. Equisetum, Pteris* and *Marsilea.*

Suggested Readings:

1. Dube, H.C., 1990, An Introduction to Fungi, Vikas Publishing House Pvt. Ltd., Delhi.
2. Puri, P., 1980 Bryophyta, Atma & Sons, Delhi.
3. Sharma, O.P., 1992, Text Book of Thallophytes, McGraw Hill Publishing Co.
4. Sharma, O.P. 1990, Text Book of Pteridophyta, McMillan India Ltd.
5. Sharma, P.D., 1991, The Fungi, Rastogi & Co. Meerut.
6. Smith G.M. 1971, Cryptogamic Botany, Vol. II, Bryophytes & Pteridophytes. Tata McGraw Hill Publishing Co., New Delhi.

Suggested Laboratory Exercises:

Teachers may select plants/material available in their locality/institution.

1. Study of the genera included under algae and fungi.
2. Study of morphology, reproductive structures and anatomy of the examples cited in theory under Bryophyta and Pteridophyta.
3. Observation of disease symptoms in hosts infected by fungi, viruses and mycoplasma Section cutting of diseased material and identification of the pathogens as per the theory syllabus.
4. Gram staining of bacteria.

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SEMESTER – II
BOTANY

CELL BIOLOGY AND GENETICS

Time: 3 Hrs. **Total Marks: 100**
Theory Marks: 75
Practical Marks: 25

Instructions for the Paper Setters:
There will be a total of nine questions. Question No. 1 will be compulsory and will be of short answer–type (3–4 lines). No multiple choice questions, answer of one–word answer type be set. The remaining 8 questions will include two questions from each unit. Candidates will be required to attempt 1 question from each of the 4 units. All questions (including Q. No. 1) will have equal marks.

Unit–I
Structure and Function of Nucleus; Ultrastructure; nuclear membrane; nucleouls.
Extranuclear Genome: Presence and function of mitochondrial and plastid DNA; plasmids.
Structure and function of other organelles: Golgi, ER, peroxisomes, Vacuoles.

Unit–II
Chromosome Organization: Morphology; centromere and telomere; chromosome alterations; deletions, duplications, translocations, inversions; variations in chromosome number, aneuploidy, polyploidy; sex chromosomes. The cell envelopes: Plasma membrane; bilayer lipid structure; functions; the cell wall.

Unit–III
DNA the Genetic Material: DNA structure; replication; DNA–protein interaction; the nucleosome model; genetic code; satellite and repetitive DNA.
Cell division : Mitosis; meiosis.

Unit–IV
Genetic Inheritance: Mendelism; laws of segregation and independent assortment; linkage analysis; allelic and non–allelic interactions. Gene expression**:** Structure of gene; transfer of genetic informaton; transcription, translation, protein synthesis, tRNA; ribosomes; regulation of gene expression in prokaryotes and eukaryotes; proteins, ID, 2D, and 3D structure.
Genetic Variations: Mutations, spontaneous and induced; transposable genetic elements; DNA, damage and repair.

Suggested Readings:

1. Gupta, P.K. 1999, A Text–book of Cell and Molecular Biology, Rastogi Publications, Meerut, India.
2. Kleinsmith, L.J. and Kish, V.M. 1995. Principles of Cell and Molecular Biology (2nd edition). Harper Collins College Publishers, New York, USA.
3. Lodish, H., Berk, A., Zipursky, S.L., Matsudaira, P. Baltimoe. D. and Darnell, J. 2000. Molecular Cell Biology, W.H. Freeman & Co., New York, USA.
4. Russell, P.J., 1998, Genetics. The Benjamin/Cummings Publishing Co., Inc., USA.
5. Snustad, D.P. and Simmons, M.J., 2000, Principles of Genetics, John Wiley & Sons, Inc., USA.
6. Wolte, S.L., 1993, Molecular and Cell Biology, Wadsworth Publishing Co., California USA.

Suggested Laboratory Exercises

(Teachers may select plants/material available in their locality/institutions).

1. To study cell structure from onion leaf peels; demonstration of standing and mounting methods.
2. Comparative study of cell structure in onion cells, Hydrilla and Spirogyra. Study of cyclosis in Tradescantia Staminal Cells.
3. Study of plastids to examine pigment distribution in plants (e.g. Cassia, Lycopersicon and Capsicum).
4. Examination of electron micrographs of eukaryotic cells with special reference to organelles.
5. Study of electron micrographs of viruses, bacteria, cyanobacteria and eukaryotic cells for comparative cellular organization.
6. Examination of various stages of mitosis and mitosis using appropriate plants material (e.g. onion root tips, onion flower buds).
7. Preparation of karyotypes from dividing root tip cells and pollen grains.
8. Cytological examination of special types of chromosomes: bar body, lampbrush and polytene chromosomes.
9. Working out the laws of inheritance using seed mixtures.
10. Working out the mode of inheritance of linked genes from test cross and/or F2 data.

Suggested Readings (for laboratory exercises)

1. Fukui, K. and Nakayama, S. 1996. Plant Chromosomes; Laboratory Methods, CRC Press, Boca Raton, Florida.
2. Gunning, B.E.S. and Steer, M.W. 1996. Plant Cell Biology; Structure and Function, Jones and Barllett Publishers, Boston, Massachusetts.
3. Harns, N. and Oparka, K.J. 1994. Plant Cell Biology, A Practical Approach. IRL Press, at Oxford University Press, Oxford, UK.
4. Sharma, A.K. and Sharma, A. 1999. Plant Chromosomes; Analysis. Manipulation and Engineering, Harwood Academic Publishers, Australia.

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BIOINFORMATICS (VOCATIONAL)

SCHEME

SEMESTER–I

Title	Subject	Credit Hours	Marks
Paper-A	Fundamentals of Computers, Molecular Biology & rDNA Technology	6	75
Paper-B	Lab in Computer Fundamentals	4.5	25
	Total:	**10.5**	**100**

SEMESTER–II

Title	Subject	Credit Hours	Marks
Paper-A	Basic Mathematics, Biostatistics & Database Management Systems	6	75
Paper-B	Lab in Database Management Systems	4.5	25
	Total:	**10.5**	**100**

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SEMESTER – I
BIOINFORMATICS (VOCATIONAL)

Paper-A
Fundamentals of Computers, Molecular Biology & rDNA Technology

Time: 3 Hrs. **M.M.: 75**

UNIT-I

History of Computers: Evolution, Generation of Computers (I, II, III, IV, V)

Classification of Computers: Notebook, Personal, Mainframe, Minicomputers, Workstation and Supercomputers)-comparison with memory, power, cost, size-then and now.

Computer Organization and Architecture: Computer Architecture, I/O Devices, ALU, Memory chips (RAM, ROM, DRAM), Storage devices, Memory hierarchy.

MS-Word: Introduction to parts of Window, Creating, Opening, Saving and Printing a Document, Text formatting, Page Setup, Margins, Line spacing, Page break, Header and Footers, Spell Checking, Table , Mail Merge.

MS-Power point: Introduction Power Point Elements, Creating, opening, saving of PowerPoint slide, Adding text and title, moving and resizing text, text formatting (using Bullets, font style, font size, color and effects) custom animation, slide transition, insert pictures and sound file to slide.

MS-Excel: Introduction, format of electronic worksheet, adding data in worksheet, cell Addressing Ranges, applying and copying formula, various mathematical and statistical functions, Inserting charts.

UNIT-II

Computer Networking: OSI reference model, Network Topologies, Router, Switch, LAN, WAN, MAN, Wireless LAN and Mobile Computing, TCP/IP protocol.

Internet: Introduction to Internet, World Wide Web, Concepts of Domain, Concept of Web Browser, Concept of Intranet and Extranet, Computer network and security

Internet Services and applications: Internet Tools. Telnet, FTP, E-Mail, Chat, newsgroups,

HTML: Introduction, common tags, creating hyper links, incorporation of images, Tables; Frames, Formatting of text with fonts.

UNIT-III

Introduction to Molecular Biology: Structure and properties of Nucleic acids: (DNA, RNA), Organization of DNA in chromosome in (Prokaryotes and Eukaryotes), Heterochromatin/Euchromatin, Repetitive sequences.

Proteins: Amino acids and their properties; Primary, secondary, tertiary and quaternary structures.

DNA replication: Mechanisms of prokaryotic and Eukaryotic DNA replication,

Expression of the Genome: Mechanisms of Transcription (Prokaryotes and Eukaryotes), RNA processing (Capping, Polyadenylation, splicing), Translation (The Genetic Code and Protein Synthesis).

UNIT-IV

Gene Regulation: Principles of gene regulation, regulation of gene expression in bacteria (Lactose operon, Tryptophan operon), regulation of gene expression in eukaryotes.

rDNA Technology: Restriction digestion, Ligation, Plasmid and Lambda Vectors, PCR, Cloning etc, Genetic engineering and transgenic organisms. DNA sequencing methods. Concepts of Mapping, Construction of physical maps, Genetic maps and radiation hybrid maps etc.

Recommended Books:

Norton's P. (2001). Introduction to Computing Fundamental. *McGraw Hill Education, New Delhi.*

Sinha P.K. (2001). Fundamental of Computers. *BPB Publication, New Delhi.*

Deborah S. Ray, Eric J. Ray (2002) Mastering HTML and XHTML, Sybex Inc.

HTML Complete, 3rd Edition (2003), Sybex Inc.

Kapila H. (2003). PC Computing Window Based Computer System. *Dinesh Publishers, Jalandhar.*

Grauer B. (2005). Exploring Microsoft Office 2003 (Volume 1). *Prentice Hall, New Jersey.*

Norton's P. (2001). Introduction to Computing Fundamental. *McGraw Hill Education, New Delhi.*

Sinha P.K. (2001). Fundamental of Computers. *BPB Publication, New Delhi.*

Brooker, R.J. Genetic Analysis and Principles. Addison Wisely Longman, N.Y. (2001).

Pevzner, J. Introduction to Bioinformatics. John Wiley and Sons, N.Y. (2003).

Baxevanis A.D. Bioinformatics: A practical guide to the analysis of Gene and Proteins (2nd Edition) 2001.

Lodish H, Berk A, Zipursky, S.L., Baltimore, D. Darnel, J. Molecular Cell Biology. W.H. Freemen and Company, USA (2000).

Lesk A. M. (2002). Introduction to Bioinformatics. *Oxford University Press.*

Krane D. E. and Raymer M. L. (2002). Fundamental Concepts of Bioinformatics. *Benjamin Cummings.*

Lehninger, A.L. Nelson, DL and Cox, MM (2008). Principles of Biochemistry, 5th Ed., *Worth Publishers, New York.*

Benjamin. E (2004). Immunology, *Willey and Liss, New York.*

Kubey, J and Goldby, R.A. (2003). Immunology Freeman and Co., *New York.*

De Roberties, E.D and De Roberties, E.M (1987). Cell and Molecular Biology, 8th Ed, *Lippincott Williams and Wilkins Publication.*

SEMESTER – I

BIOINFORMATICS (VOCATIONAL)

Paper-B
(Lab in Computer Fundamentals)

Time: 3.0 Hrs **M.M.: 25**

Practical

MS-WORD
1. To create, open, close a document and toolbar operations.
2. Practical to demonstrate formatting options
3. Practical based on page setup, print a document.
4. To add headers, footer, pagebreak.
5. Table handling, Mail Merge.

MS-POWERPOINT
1. Concept of slide, presentation, custom animation.
2. To insert pictures and sound file to slide.
   Slide transition.

MS-EXCEL
1. To create, open, close worksheet.
2. To add numeric as well as character data in a cell.
3. To develop formulas, create and modify charts.

Installation of Windows and LINUX
Basic commands of LINUX.
Basic DOS commands.
Basic Exercises on HTML.

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SEMESTER – II
BIOINFORMATICS (VOCATIONAL)

Paper-A
Basic Mathematics, Biostatistics & Database Management Systems

Time: 3 Hrs. **M.M.: 75**

UNIT-I

Matrices and Vectors: Matrix Algebra, -Addition, Subtraction, Multiplication, Transpose inverse and conjugate of a Matrix. Determinants (**upto third order)**, Vectors in space, Addition, Subtraction Dot, Cross and Scalar triple product.

Functions: concept of functions, its domain and range, only graphs of some well known functions such as linear, exponential, sine and cos.

Coordinate Geometry: Equation of a line, circle.

Differentiation: Limits of functions, Complete Differentials (Simple examples), Partial differentials of functions with one variable.

Integration: Indefinite **(Simple examples)** and Introduction to Definite Integral.

Differential Equation: Ordinary Differential Equation of 1st order & 1st degree, Partial Differential equations.

UNIT-II

Elementary Statistics: The mean, median, mode, standard deviation, variance, covariance of data.

Probability: Basic concepts, sample space and events, use of counting method in probability, addition law, sample problems involving the estimation of probabilities, Conditional Probability and Independent Events, Bayes theorem.

Introduction to Correlation & Regression: Scatter diagram, Linear correlation, linear regression lines.

Probability Distributions: Bernoulli, Binomial, Poisson and Normal Distributions.

UNIT-III

Introduction to DBMS: Data, Information, Knowledge, Database approach, Characteristics of Database approach, Database System Concept, Components of Database System, DBMS, Database languages, DBMS Architecture and data Independence.

Data Models: ER Model Concepts, Notation for ER Diagram, Relational Model Concepts, relational Model Constraints.

Normalization and is forms like 1NF, 2NF, 3NF, BCNF, 4NF and 5NF. Functional Dependencies.

SEMESTER – II
BIOINFORMATICS (VOCATIONAL)

UNIT-IV

SQL: Introduction, DDL statements, DML statements, TCL statements, Queries in SQL: Nested Queries, Single row sub queries, multiple row sub queries, Multiple Column sub queries, views in SQL.

Introduction to PL/SQL: Basic Elements of PL/SQL, Procedures: Local and stored procedures, Functions: Local functions, Return statement and stored functions. Difference b/w procedures and functions.

Recommended Books:

1. Elhance D.N. (1984). Fundamentals of Statistics. *Kitab Mahal, Allahabad.*
2. Mendenhall W. and Sincich T. (1995). Statistics for Engineering and Sciences (IVth Edition). *Prentice Hall.* And sciences (IVth Edition). Prentice Hall.
3. Gupta S.P. (2000). Statistical Methods. *Sultan Chand and Company, New Delhi.*
4. Kapoor V.K. and Gupta S.C. (2000). Fundamentals of Mathematical Statistics. *Sultan Chand and Company, New Delhi.*
5. J. Crawshaw and J Chamber (2002). Advanced Level Statistics, 4th Edition, *Melson Thornes.*
6. Spiegel M.R. (1974). Theory and Problems of Advanced Calculus. *Tata Mcgraw Hill Company Ltd., New Delhi.*
7. Edward Batschelet (1992) "Introduction to Mathematics for Life Sciences", 3rd Edition, *Springer-Verlag.*
8. Brown R. (1994). Theory and Problems of Differential Equations. *Tata Mcgraw Hill Company Ltd., New Delhi.*
9. Kapoor V.K. and Gupta S.C. (2000) Fundamentals of Mathematical Statistics. *Sultan Chand and Company, New Delhi*
10. Nell and D. Qualing (2002) Pure Mathematics (Advanced Level Mathematics) Vol. 1, 2 & 3, *Cambridge University Press.*
11. Fundamentals of Database Systems by Elmasari and Navathe, Prentice Hall (India), 2001.
12. Fundamentals of DBMS: Anurag Gupta, Nishan Singh Dhillon, Jagmohan Magho, Anshuman Sharma.
13. Data Mining Concepts and Techniques-Jiawei Han, Micheline Kamber, *Morgan Kaufmann Publisher, 2001.*

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SEMESTER – II
BIOINFORMATICS (VOCATIONAL)

PAPER-B: LAB IN DATABASE MANAGEMENT SYSTEMS

Time: 3.0 Hrs **M.M.: 25**

Exercise to understand RDBMS: Oracle, SQL etc.

Usage of important Commands/instructions

DDL statements

DML statements

TCL statements

Queries in SQL

Operators

Functions

Views

Basic elements of PL/SQL

Procedures

Functions

BIOTECHNOLOGY (VOCATIONAL)

Paper	Maximum Marks		Hours of Teaching	
	Theory	**Practical**	**Theory**	**Practical**
Semester – I			**Credit Hrs. (60 min. each)**	**per Week**
Microbiology	75	25	6 Hrs	4.5 Hrs
Semester – II				
Genetics and Biochemistry	75	25	6 Hrs	4.5 Hrs

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SEMESTER – I
BIOTECHNOLOGY (VOCATIONAL)

MICROBIOLOGY
(Theory)

Examination Time: 3 Hours **Max. Marks: 75**

Instructions for the Paper Setters and Candidates:

1. There will be a total of 9 questions.
2. Question 1 will be compulsory and will be of 10 short answer type. **(1.5X10=15)**
3. The remaining 8 questions shall include 2 questions from each unit. Candidates shall be required to attempt 1 question from each unit. All questions shall have equal marks **(15x4=60).**

Unit-I

Development of microscopy (optical, TEM and SEM); Pasteur's experiments disproving spontaneous generation; The concept of sterilization. Methods of Sterilization (Dry heat, wet heat, radiation, chemical and filteration etc.)

Unit-II

Concept of microbial species and strains; The various forms of microorganisms-PPLOs-cocci, bacilli and spirilla; Spontaneous and induced variation arising in microbial population; Nature of the microbial cell surface. Gram positive and gram negative bacteria. Kinds of flagella. Serotypes; Prokaryotic and eukarotic microbial cells.

Unit-III

Nutritional classification of microorganisms; Microbes in extreme environments–the thermophiles and alkalophiles; Pathogenic microorganisms. Defence mechanism against microorganisms; Symbiosis and antibiosis among microbial populations; N2-fixing microbes in agriculture.

Unit-IV

Microbial metabolism; Fermentation products; A survey of products from micro-organisms; Strain improvement by enrichment, selection and recombinant DNA methods; Production of heterologous proteins of interest in micro-organisms.

SEMESTER – I
BIOTECHNOLOGY (VOCATIONAL)

Books Recommmended:

1. Davis, B.D. Dulbecco. R., Eisen, H.N. and Ginsberg, H.S. (1990), Microbiology: 4th Edition, Harper & Row, Publishers. Singapore.
2. Tortora, G.J., Funke, B.R. and Case, C.L. (1994), Microbiology: An Introduction: 5th Edition, The Benjamin / Cummings Publishing Company, Inc.
3. Stanier, R.Y. (1995), General Microbiology, MacMillan Press, London.
4. Pelezar, M.T. (1995), Microbiology, Tata McGraw Hill Publication, New Delhi.
5. Schlegel, H.G. (1995), General Microbiology, 7th Edition, Cambridge Univ. Press.
6. Prescott and Dunn (1999), Industrial Microbiology, 4th Edition. By S.K. Jain for CBS Publishers & Distributors.
7. Purohit, S.S. (2000), Microbiology; Fundamentals and Applications (6th Edition), Agrobios (India).
8. Postage, J. (2000), Microbes & Man, 4th Edition, Cambrige Univ. Press.
9. Tortora, G.J., Funke, B.R., 2001, Microbiology: An Introduction, Benjammin Cummings.

SEMESTER – I
BIOTECHNOLOGY (VOCATIONAL)

PRACTICAL: MICROBIOLOGY

Examination Time: 3 Hours **Max. Marks: 25**

Microbiological Techniques

Aseptic techniques

Cleaning of glassware

Preparation of media, cotton-plugging and sterilization

Personal hygiene-Microbes from hands, tooth-scum and other body parts.

Isolation of microorganisms from air, water and soil samples.

Dilution and pour plating. Colony purification.

Enumeration of micro-organisms. Total vs. viable counts.

Identification of isolated bacteria. Gram staining, other staining methods, metabolic characterization (e.g. IMViC test)

Growth curve of microorganisms.

Antibiotic sensitivity of microbes, use of antibiotic discs.

Testing of water quality.

One step growth of bacteriophage.

Alcoholic and mixed-acid fermentation

Book Recommended:

Cappucin J.G. and Sherman, N. (1992), Microbiology: A Laboratory Manual, 3rd edition, Benjamin/Cummings Publishing Company, Inc.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Life Sciences)

SEMESTER – II
BIOTECHNOLOGY (VOCATIONAL)

GENETICS AND BIOCHEMISTRY
(Theory)

Examination Time: 3 hrs. **Max. Marks: 75**

Instructions for the Paper Setters and Candidates:

1. There will be a total of 9 questions.
2. Question 1 will be compulsory and will be of 10 short answer type. **(1.5X10=15)**
3. The remaining 8 questions shall include 2 questions from each unit. Candidates shall be required to attempt 1 question from each unit. All questions shall have equal marks **(15x4=60)**

Unit-I

Mendelian laws of inheritance; gene interactions. Sex determination in plants and animals, sex-linkage, non-disjunction as a proof of chromosomal theory of inheritance. Linkage; mapping genes; Chromosomes: chemical composition; structural organization of chromatids, centromeres, telomeres, chromatin, nucleosome organisation; eu-and heterochromatin; special chromosomes (e.g., polytene and lampbrush chromosomes; banding patterns in human chromosomes.

Unit-II

Structural and numerical aberration involving chromosomes; Hereditary defects- Kleinefelter, Turner, Cri-du-Chat and Down syndromes. Mutations-spontaneous and induced; chemical and physical mutagens; induced mutations in plants, animals and microbes for economic benefit of man. Conjugation, transduction, transformation, isolation of auxotrophs, replica plating techniques. Extrachromosomal inheritance, mitochondrial and chloroplast genetic systems. Population genetics : Hardy-Weinberg equilibrium, gene and genotypic frequencies.

UNIT-III

Nature of biological material; Suitability of organic compounds for generation of structure, storage of energy and information; Hydrophilic and hydrophobic groups in biological molecules.

i) Carbohydrates, pepetidoglycans, polysaccharides and membrane lipids.
ii) The signal molecules: Hormones.

The repeating units in nucleic acids and conformation of DNA (A, B & Z). Proteins, Helicity, bending, looping, pleats, salt bridges etc. and their determinants.

SEMESTER – II
BIOTECHNOLOGY (VOCATIONAL)

Unit-IV

The basis for intermolecular interaction e.g. enzyme-substrate. Protein and nonprotein enzymes. Kinetics of enzyme catalysed reactions (first order), Enzyme inhibition. Enzymes and their applications in industry. Enzymes in food processing, medicine, diagnostics and production of new compounds. Enzymes as research tools-ELISA methods, modifications of biological compounds with the help of enzymes.

Books Recommended:

1. De-Robertis, F.D.P. and De-Robertis Jr. E.M.F. (1991), Cell and Molecular Biology, Saunders, Philadelphia.
2. Maloy, S.R. Crown, J.E. and Freifelder, D. (1994), Microbial Genetics: 2nd Edition, Jones & Bartlett Publishers.
3. Hartl. D.L. (1994), Genetics: 3rd Edition, Jones & Bartlett Publishers.
4. Lodish, H., Baltimore, D., Berk, A., Zipursky, S.L., Matsudaria, P and Darnell, J. (1995), Molecular Cell Biology, 3rd Edition, Scientific American Books Inc.
5. Brooker, R.J. (1999), Genetics: Analysis and Principles, Jim Green.
6. Antherly A.G., Girton. J.R. (1999). The Science of Genetics. Harcourt College Publishers.
7. Freifelder, D. (2000), Microbial Genetics, Narosa Publishing House.
8. Geoffrey, M. (2000), The Cell: A Molecular approach, 2nd Edition, ASM Press.
9. Hartl, D.L., Jones E.W., (2001). Genetics: Analysis of Genes & Genomes, 5th Edition Jones & Bartlett Publishers.

SEMESTER – II
BIOTECHNOLOGY (VOCATIONAL)

PRACTICAL: BIOCHEMICAL TECHNIQUES

Examination Time: 3 Hours **Max. Marks: 25**

Biochemistry Techniques:

Verification of Beer Lamberts for P-nitrophenol or cobalt chloride.

Determination of pKa value of p nitrophenol

Quantitative estimation of the following in biological samples

Sugar in given solutions

Sugar in biological samples

Extractions and separation of lipids

The determination of acid value of a fat

Estimation of proteins

Estimation of DNA/RNA

Books Recommended:

1. Bansal, D.D., Khardori, R. & Gupta, M.M. (1985), Practical Biochemistry, Standard Publication, Chandigarh.
2. Plummer D.T. (1990), An Introduction of Practical Biochemistry, 3rd Edition, Tata McGraw Hill Publishers Co. Ltd., New Delhi.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Education)

SEMESTER – I
EDUCATION

PHILOSOPHICAL FOUNDATIONS OF EDUCATION

Time: 3 Hours **Max. Marks: 100**
Total Teaching Periods: 150

Instructions for the Paper Setters:
Note: (i) In all eight questions to be set, four from each section.
(ii) A student will be required to attempt five questions selecting, at least two from each section.

Section–I

1. Meaning, nature, scope and functions of education. Formal, informal and non–formal education.
2. Aims and Objectives of Education, factors determining aims of Education.
3. Analysis of concept of Education: Schooling, Training and Indoctrination.
4. Commission (1964– 66) and NPE (1986), aims of education in the Modern Indian Society.

Section–II

1. Home, school and community and mass media as agencies of education.
2. Education for democratic citizenship.
3. Education for national integration.

Books Recommmended:

1. Bhatia and Narang — Philosophical & Sociological Foundation Education Doaba House, New Delhi, 1992.
2. Dayakar, Reddy, D. — Value Oriented Education, Discover Publishers, 2006.
3. Dhaliwal, A.S. — Vidyak Manovigyan, Punjabi University, Patiala, 1985.
4. Dash., D.N. — Philosophical and Sociological Foundation of Education, Dominant Publisher, New Delhi, 2005.
5. Govt. of India — Ministry Report of Secondary Education Commission (1952–53).
6. Prasad and Chandra — Sociological Foundations of Education, Deepak KSK Publishers, Delhi, 2006.
7. Saxena Swaroop, N.R. — Education In Emerging India Chaturvedi Sikha Society, R.Lall Book Depot, Meerut, 2005.
8. Sodhi, T.S. — Philosophical and Sociological Foundations of Education, Bawa Publications, Patiala, 2007.
9. Taneja, V.R. — Foundation of Education, Chandigarh, Mahindra Capital, Punjab, 2006.
10. Walia, J.S. — Philosophical and Sociological Basic of Educarion Ahim Paul Publishers, Jalandhar, 2007.

B.A./B.Sc. (Semester System) (12+3 System of Education)
(Faculty of Education)

SEMESTER – II
EDUCATION

PSYCHOLOGICAL FOUNDATIONS OF EDUCATION

Time: 3 Hours **Max. Marks: 100**
Total Teaching Periods: 150

Instructions for the Paper Setters:
Note: **(i) In all eight questions to be set, four from each section.**
(ii) A student will be required to attempt five questions selecting, at least two from each section.

Section–I

1. Meaning of Psychology, Relationship between Education and Psychology, nature and scope of Educational Psychology
2. Nature of learners'–Physical, mental, emotional and social stages of development.
3. Determinants of Behaviour: Heredity and Environment– Concept, role and principles.

Section–II

1. Physical, mental, social, emotional characteristics, needs and Problems of Indian Adolescents.
2. Concept and Elements of Mental Health. Need of mental health for students & teachers.
3. Meaning of Instincts, Emotions and Sentiments and their role in education.
4. Meaning and Dimensions of Personality, factors affecting Personality.

Books Recommended:

1. Bhatia and Narang — Theory & Principles of Education, Parkash Brothers, Ludhiana, 1986.
2. Dayakar, Reddy, D — Value, Oriented Education, Discover Publishers, Delhi, 2006.
3. Dhaliwal, A.S. — Vidyak Manovigian, Punjabi University, Patiala, 1985.
4. Prasad and Chandra — Sociological Foundations of Education, Deepak KSK Publishers, Delhi, 2006.
5. Saxena Swaroop, N.R. — Education in Emerging India Chaturvedi Sikha Society, R. Lall Book Depot, Meerut, 2005.
6. Sodhi, T.S. — Philosphical and Sociological Foundations of Education, Bawa Publications, Patiala, 2007.
7. Taneja, V.R. — Foundation of Education, Chandigarh, Mahindra Capital, Punjab, 2006.
8. Walia, J.S. — Philosphical and Sociological Basis of Education, Ahim Paul Publishers, Jaladhar, 2007.
9. Mohan, G.A — Educational Psychology, Neelkamal Publications PVT.LTD. New Delhi. 2007.
10. Mathur, S.S — A Sociological Approach to Indian Education, Vinod Pustak Dirandi, Agra–2 (1985).