# Department of Applied Science & Humanities

SYLLABUS FOR 2nd Sem B.Sc. PROGRAMME

Chemistry -II (11100151)

Type of Course: B.Sc.

# Prerequisite:

# Rationale:

### Teaching and Examination Scheme:

Teaching Scheme (Hrs./Week)				Examination Scheme					
Last			Credit	External		Internal			Total
Lect	Tut		т	Р	Т	CE	Р		
3	0	0	3	60	-	20	20	-	100

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Sr.	Торіс	Weightage	Teaching Hrs.
1	<ul> <li>unit 1:</li> <li>Chemical Bonding:</li> <li>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, valence shall electron pair repulsion (VSEPR) theory to NH3, H3O+, SF4, CIF3, ICI-2 and H2O, MO theory, homonuclear and heteronuclear (CO and NO) diatomic molecules, multicenter bonding in electron deficient molecules, bond strength and bond energy, percentage ionic character from dipole moment and electro-negativity difference.</li> <li>Ionic Solids – Ionic structures, radius ratio effect and coordination number, limitation of radius ratio rule, lattice defects, semiconductors, lattice energy and Born-Haber cycle, salvation energy and solubility of ionic solids, polarizing power and polarisability of ions, Fajan's rule, Metallic bond-free electron, valence bond and band theories.</li> <li>Weak Interactions – Hydrogen bonding, Vander Waals forces</li> </ul>	16%	7

	unit 2:		
	Organic Chemistry : Structure and Bonding:		
	Hybridization, bond lengths and bond angles, bond energy, localized and delocalized chemical bonding, van der Waals interactions, inclusion compounds, clatherates, charge transfer complexes, resonances, hyperconjugation, aromaticity, inductive and field effects, hydrogen bonding.		
0	Mechanism of Organic Reactions:	000/	45
2	Curved arrow notation, drawing electron movements with allows, half- headed and double-headed arrows, homolytic and heterolytic bond fission, Types of reagents – electrophiles and nucleophiles, Types of organic reactions, Energy considerations.	33%	15
	Reactive intermediates – Carbocations, carbanions, free radicals, carbenes, anynes and nitrenes (with examples). Assigning formal charges on intermediates and other ionic species. Methods of determination of reaction mechanism (product analysis, intermediates, isotope effects, kinetic and stereochemical studies).		
	unit 3:		
	Stereochemistry:		
3	Optical activity, properties of enantiomers, chiral and achiral molecules with two stereogenic centers, disasteromers, threo and erythro, diastereomers, meso compounds, resolution of enantionmer, inversion, retention and recemization. Relative and absolute configuration, sequence rules, D and L and R and S systems of nomenclature. Geometric isomerism – determination of configuration of geometric isomers, E and Z system of nomenclature, geometric isomerism in oximes and alicyclic compounds.	33%	15
	Conformational isomerism – conformational analysis of ethane and n- butane, conformations 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		
	unit 4:		
	Gaseous States:		
	Postulates of kinetic theory of gases, deviation from ideal behavior, Vander Waals equation of state.		
4	Critical Phenomena : PV isotherms of real gases, continuity of states, the isotherms of vander Waals equation, relationship between critical constants and vander Waals constants, the law of corresponding states, reduced equation of state.	18%	8
	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, Liquification of gases (based on Joule – Thomson effect).		

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

### **Reference Books:**

1. Concise Inorganic Chemistry by J. D. Lee

- 2. Inorganic Chemistry Puri and Sharma
- 3. Principle of Physical Chemistry Puri, Sharma and Pathania
- 4. Organic Chemistry, Robert T. Morrison and Robert N. Boyd,6th Ed., Pearson Education, 2002.
- 5. Organic Chemistry I L Finar
- 6. Organic Chemistry Solomons and Fryhle
- 7. Organic Chemistry (Vol. I) S M Mukherji, S P Singh and R P Kapoor

#### Department of Microbiology

#### SYLLABUS FOR 2nd Sem B.Sc. PROGRAMME

Principles of Microbiology (11101151)

Type of Course: B.Sc.

# Prerequisite:

# Rationale:

### **Teaching and Examination Scheme:**

Teaching Scheme (Hrs./Week)				Examination Scheme					
Loot	at Tut Lab		Credit	External			Total		
Lect		Lab	т	Р	Т	CE	Р		
3	-	-	3	60	-	20	20	-	100

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Sr.	Торіс	Weightage	Teaching Hrs.
1	<ul> <li>unit 1:</li> <li>Historical Developments In Microbiology :</li> <li>Definition and scope of microbiology, Early observation of microorganisms, Controversy over spontaneous generation - Contribution of different scientists, Recognition of microbial role in diseases - Koch's postulates and contribution of Louis Pasteur, Edward Jenner, Recognition of microbial role in fermentation, discovery of microbial effect on organic and inorganic matter, Discovery of pure culture concept, aseptic surgery. Structure of eubacteria and archaebacteria</li> </ul>	22%	10
2	<ul> <li>unit 2:</li> <li>Microbial Nutrition:</li> <li>Concept of microbial nutrition,common nutritional requirements, energy sources, C, H, N, O, P, S, Micronutrients, Growth factors, Water etc. Nutritional categories of microorganisms on the basis of carbon and energy source.</li> </ul>	16%	7

	unit 2		
3	Reproduction and Growth Physical and Chemical Structures of different Microbes, Importance of Cell shape, cell size in rods and cocci. Microbial Reproduction: Types/modes of reproduction in microbes: Binary fission, budding. Bacterial growth: Definition and brief description. –. Growth Phases, Growth Kinetics Calculation of duration of Phases and generation time, Growth yields, Methods of growth determination.Different types of bacterial culture –batch ,synchronous.Factors affecting growth - temperature, pH, osmotic pressure and nutrient concentration per cell	22%	10
	unit 4:		
4	Bacterial cultivation and maintenances: Pure culture Techniques- Definition and Significance of Streak plate, Pour plate, Spread plate,. Single Cell isolation. Cultivation of Bacteria- Definition, Concept, Use and Types of different culture media, Properties of good culture media. Synthetic, Non-synthetic, Natural, Selective, Differential, Enriched, Enrichment, Assay, Minimal, Maintenance and Transport Medium, buffers in culture medium. Cultivation of anaerobes.	22%	10
	unit 5:		
	Antimicrobial techniques		
5	Definition of Sterilization, Disinfection, Antiseptic, Germicide, Sanitizer, Fungicide, Vermicide, Bacteriostatic and Bactericidal agent. Chemical Disinfectants-Characterization of ideal disinfectant, Chemical Agents: Phenol and Phenolic compounds, Alcohols, Gaseous sterilizing Agents: Formaldehyde, Ethylene Oxide, β- Propiolactone. Sterilization by Physical Agent-Heat: Moist Heat, Dry heat, Boiling, Tyndallization, Pasteurization, , Incineration, autoclave, hot air Oven. Radiation:- Ionising and Non-ionising radiations. Filtration and Types of filters (Bacteriological)	18%	8

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

- 1. Microbiology, Pelczar Jr, M J, Chan E C S., Krieg N R, McGraw-Hill Book Company, NY
- Introduction to Microbiology Ingraham J L, and Ingraham, C L, Brooks/Cole, Singapore
- 3. Introductory Microbial world Modi H.A.
- 4. Introduction to microbiology prescott

#### Department of Biotechnology

SYLLABUS FOR 2nd Sem B.Sc. PROGRAMME

Molecular Genetics (11102151)

Type of Course: B.Sc.

# Prerequisite:

# Rationale:

### **Teaching and Examination Scheme:**

Teaching Scheme (Hrs./Week)				Examination Scheme					
Loot	Loot Tut Lob		Credit	External		Internal			Total
Lect	Tut	Lau	Lab	т	Р	Т	CE	Р	
3	-	-	3	60	-	20	20	-	100

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Sr.	Торіс	Weightage	Teaching Hrs.
1	unit 1: Science of Genetics – Classical, Molecular and Evolutionary Genetics, History of Human Genetics Pedigrees- gathering family history, pedigree symbols, construction of pedigrees, presentation of molecular genetic data in pedigrees, Autosomal and Sex Linked Inheritance, Mitochondrial and Chloroplast Inheritance	10%	5
2	<b>unit 2</b> : <b>Genome Organization and complexity</b> - Organization of viral and bacterial genomes, Eukaryotic genome, C-value paradox, Repetitive DNA, General concept of a gene, Gene families, Non-coding genes, Chromatin structure, Polytene and Lampbrush Chromosomes	13%	6
3	unit 3: Classical Genetics – Mendel's Laws of inheritance, Deviation from Mendel's Dihybrid phenotype, Linkage, Sutton's view on linkage, Morgan's view on linkage, Bateson and Punnet's Coupling and Repulsion hypothesis.	16%	7
4	unit 4: Linkage and Crossing over - Chromosome theory of Linkage, kinds of linkage, linkage groups, types of Crossing over, mechanism of Meiotic Crossing over, kinds of Crossing over, theories about the mechanism of Crossing over	16%	7
5	unit 5: Allelic Variation and Gene function – Multiple allele, Genetic interaction, Epiststic interactions, Non-Epistatic inter-allelic genetic interactions, Atavism/Reversion, Penetrance (complete and incomplete), Expressivity, Pleiotropism, Modifier/Modifying genes.	16%	7

6	unit 6: Structural and functional organization of interphase nucleus - Mitosis and Meiosis, Numerical and structural anomalies in chromosome, Dosage compensation	16%	7
7	unit 7: Population and Evolutionary Genetics - Macro- and Micro - evolution in Mendelian population, Hardy-Weinberg equilibrium and conditions for its maintenance, Elemental forces of evolution - Mutation, Selection (Types of selection, selection coefficient, selection in natural populations), Genetic drift, Migration Species and speciation - Sympatric and Allopatric	13%	6

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

- 1. Molecular Biology of Cell Bruce Albert
- 2. Molecular Cell Biology Lodish
- 3. Genes VIII Lewin
- 4. Principle of Genetics Gardener
- 5. Essentials of Genetics Klugg and Cummings
- 6. Genetics B.D .Singh

### **Department of Biotechnology**

SYLLABUS FOR 2nd Sem B.Sc. PROGRAMME

# Lab-1 (Molecular Genetics and Microbial Techniques) (11102152)

Type of Course: B.Sc.

# Prerequisite:

Rationale:

### **Teaching and Examination Scheme:**

Teaching Scheme (Hrs./Week)				Examination Scheme							
Lect Tut	Tut	Tut	Tut Lab	Tut Lob	Tut Lab	External		Internal			Total
	Tut	Tut			т	Р	Т	CE	Р		
-	-	3	2	-	30	-	-	20	50		

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Sr.	Торіс	Weightage	Teaching Hrs.
1	Molecular Genetics: Preparation of mitotic chromosomes from onion root tip	%	3
2	Molecular Genetics: Preparation meiotic chromosomes from datura or hibiscus pollen grain	%	3
3	Molecular Genetics: Preparation of metaphase chromosomes	%	3
4	Molecular Genetics: Mutagenesis by gradient plate method	%	3
5	Molecular Genetics: Replica platting	%	3
6	Molecular Genetics: Cell fractionation: Nucleus isolation and staining	%	3
7	Molecular Genetics: Study of microbiocidal effect of UV rays	%	3
8	<ul> <li>Microbial Techniques:</li> <li>Staining <ul> <li>Simple staining: Monochrome, Negative</li> <li>Differential : Gram's staining</li> <li>Structural staining: I Capsule staining (Manvel's Method)</li> <li>Hanging drop technique.</li> </ul> </li> </ul>	%	3

	Microbial Techniques:		
9	<ul> <li>Preparation of culture media</li> <li>Nutrient broth and Agar</li> <li>MacConkey's Broth and Agar</li> <li>Sugar Media</li> </ul>	%	3
10	Microbial Techniques: Isolation of bacteria from mixed culture • Streak plate method • Spread plate method • Pour plate method	%	3
11	Microbial Techniques: Study of Bacterial Growth curve.	%	3
12	<ul> <li>Microbial Techniques:</li> <li>Effect of physical and chemical agents on growth of bacteria</li> <li>pH</li> <li>Temperature</li> <li>Heavy metal ions (Oligodynamic Action)</li> <li>U.V. Rays</li> <li>Antibiotics</li> </ul>	%	3

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

#### Department of Biotechnology

SYLLABUS FOR 2nd Sem B.Sc. PROGRAMME

Biochemistry-II (11103151)

Type of Course: B.Sc.

# Prerequisite:

# Rationale:

### **Teaching and Examination Scheme:**

Teaching Scheme (Hrs./Week)				Examination Scheme					
Loot	Last Ter Lab		Credit	External			Total		
Leci	Tut	Lab		т	Р	Т	CE	Р	
3	-	-	3	60	-	20	20	-	100

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

### **Contents:**

Sr.	Торіс	Weightage	Teaching Hrs.
1	<ul> <li>unit 1:</li> <li>Basic concepts of Metabolism:</li> <li>Anabolism, catabolism, Energy coupling reaction in biology, central role of ATP in metabolism. Enzymes: Definition of Enzymes, Coenzyme, Cofactor, holoenzyme, Apoenzyme. Classification of Enzyme with suitable examples. Centr I metabolic cycles - Glycolysis, TCA cycle and pentose phosphate pathway</li> </ul>	27%	12
2	unit 2: Vitamins and Lipid Metabolism: Definition and classification of Vitamins, Structure and biochemical functions of Vitamins, Diseases related to Vitamins, Vitamin like compounds. Importance of Triglycerol, fatty acid, anabolism and catabolism (saturated and unsaturated) along with the regulation.	18%	8
3	unit 3: Amino acid metabolism: Source of amino acid, Protein turn over, Transamination and deamination reaction, metabolism of ammonia, urea cycle and its regulation, link between urea cycle and TCA cycle, Biosynthesis of essential and nonessential with regulation.	28%	13
4	unit 4: Metabolic disorders and intermediary metabolism: Metabolic disorder related to Carbohydrate metabolism, lipid metabolism, protein metabolism and nucleic acid metabolism, intermediary metabolism.	27%	12

\*Continuous Evaluation:

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

- 1. Lehninger's Principles of Biochemistry Nelson, David and Cox., Macmillan NY
- 2. Fundamentals of Biochemistry Donald Voet, Judith Voet and Charlotte Pratt
- 3. Biochemistry Berg and Stryer

### Department of Biochemistry

SYLLABUS FOR 2nd Sem B.Sc. PROGRAMME

### Lab-2 (Biochemistry-II and Chemistry-II) (11103154)

Type of Course: B.Sc.

# Prerequisite:

Rationale:

### **Teaching and Examination Scheme:**

Teaching Scheme (Hrs./Week)				Examination Scheme					
Loot	T4	Lah	Credit	External		Internal			Total
Leci	Tut	Lau		т	Р	Т	CE	Р	
-	-	3	2	-	30	-	-	20	50

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Sr.	Торіс	Weightage	Teaching Hrs.
1	<b>Biochemistry - II</b> : Estimation of Vitamin C by 2-6 Dichloroindophenol blue dye method. ard Deviation.	%	
2	Biochemistry - II: Estimation of Iron by Wong's method.	%	
3	Biochemistry - II: Estimation of Urea by DAMO method.	%	
4	<b>Biochemistry - II</b> : Estimation of Creatinine by alkaline picrate method	%	
5	<b>Biochemistry - II</b> : Estimation of Lipid by phosphovalinine method.	%	
6	Biochemistry - II: Estimation of total cholesterol by FeCl3 or enzymatic method.	%	
7	Biochemistry - II: Separation of amino acid by circular paper chromatograph	%	
8	Biochemistry - II: Estimation of Blood Sugar	%	

	Biochemistry - II:		
9	Estimation of Uric Acid	%	
	Biochemistry - II:		
10	Detection of alpha-amylase activity in saliva.	%	
	Inorganic Chemistry:		
11	Semi micro Analysis – Cation analysis, separation and identification of ions from Grops I, II, III, IV, V and VI, Anion analysis.	%	
	Organic Chemistry:		
12	Laboratory techniques	%	
	Organic Chemistry:		
13	Calibration of Thermometer: 80-820 (Naphthalene), 113.5-1140 (Acetanilide), 132.5-1330 (Urea), 1000 (Distilled Water)	%	
	Organic Chemistry:		
14	Determination of melting point: Naphthalene 80-820, Benzoic acid 121.5-1220 Urea 132.5-1330, Succinic acid 184.5-1850, Cinnamic acid 132.5-1330, Sallicylic acid 157.5-1580, Acetanilide 113.5-1140, m- Dinitrobenzene 900 p-Dichlorobenzene 520, Aspirin 1350	%	
	Organic Chemistry:		
15	Determination of boiling point: Ethanol 780, Cyclohexane 81.40, Toluene 110.60, Benzene 800	%	
	Organic Chemistry:		
16	Mixed melting point determination: Urea-Cinnamic acid mixture of various compositions (1:4, 1:1, 4:1)	%	
	Organic Chemistry:		
17	Distillation: Simple distillation of ethanol-water mixture using water condenser, Distillation of nitrobenzene and aniline using air condenser	%	
	Organic Chemistry:		
18	Crystallization: Concept of induction of crystallization, Phthalic acid from hot water (using fluted filter paper and steamless funnel),Acetanilide from boiling water, Naphthalene from ethanol, Benzoic acid from water	%	
	Organic Chemistry:		
19	Decolorisation and crystallization using charcoal	%	
	Organic Chemistry:		
20	Decolorsation of brown sugar (sucrose) with animal charcoal using gravity filtration.	%	

	Organic Chemistry:		
21	Crystallization and decolorisation of impure naphthalene (100g of naphthalene mixes with 0.3 g of Congo Red using 1g decolorizing carbon) from ethanol.	%	
22	<b>Organic Chemistry</b> : Sublimation (Simple and Vacuum): Camphor, Naphtalene, Phthalic acid and succinic acid.	%	

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

Department of Applied Science & Humanities SYLLABUS FOR 2nd Sem B.Sc. PROGRAMME Basic Mathematics & Basic Statistics (11191151)

Type of Course: B.Sc.

Prerequisite: Knowledge of statistics

Rationale: To understand and interpret biostatistics and drug literature as well as in biological sector

### **Teaching and Examination Scheme:**

Teaching Scheme (Hrs./Week)				Examination Scheme					
Last	Trif Lab		Trut Lak	External			Total		
Leci	Tut	Lau		т	Р	Т	CE	Р	
2	0	0	2	60	-	20	20	-	100

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Sr.	Торіс	Weightage	Teaching Hrs.
1	<ul> <li>Unit-1:</li> <li>Determinant: Determinant, expansion of determinant of order 2 and 3, Cramer's rule to solve simultaneous equations in 2 and 3 unknowns</li> <li>Matrices: Definition of Matrix of order mxn and types of Matrices, Algebra of Matrices, Transpose of a Matrix, Minor and cofactor of an element of a matrix, Adjoint of a Matrix, Inverse of a Matrix by adjoint method. Solution of simultaneous equations containing 2 and 3 unknowns by Matrix inversion method.</li> </ul>	11%	5
2	<ul> <li>Unit-2:</li> <li>Limit and Continuity of functions: Introduction, working rules of Limit, Some Standard Limits, Continuity of a function at a point and in an interval</li> <li>Differentiation: Introduction, Definition and Derivative of a function of one variable, Derivative of standard functions(sinx, cosx, x^n, logx, e^x), Rules of derivative</li> </ul>	15%	7
3	<ul> <li>Unit-3:</li> <li>Indefinite integral: Integration as the inverse of differentiation, Integration of Some Standard Functions (sinx, cosx, x^n, 1/x, e^x), Rules of Integration, Integration by substitution, by parts and by the method of partial fractions.</li> <li>Definite Integral: Definite integral as the limit of a sum; Properties of definite integrals</li> <li>First Order and first degree Differential Equation: Differential equation of first order &amp; first degree, Variable Separable method, Linear differential equation and application on Differential equation.</li> </ul>	25%	11

4	Unit-4: Probability& Probability Distribution : Definition of random experiments, sample space, events, occurrence of event and types of events. Definition of probability, addition and multiplication theorem of probability Binomial ,Poisson's, Normal, Uniform, Exponential Distribution	23%	10
5	Unit-5: Statistics: Frequency Distribution, Measures of Central tendency (For Raw, Ungroup and group Data) Mean, Median, Mode. Measures of Dispersion: Mean Deviation, Standard Deviation Range, Variance, Coefficient of Variance	13%	6
6	<ul> <li>Unit-6:</li> <li>Correlation:</li> <li>Introduction, Types of correlation – positive or negative, simple, multiple or partial. Coefficient of correlation, methods of studying correlation–Karl Pearson's product moment method, Spearman's rank correlation method</li> <li>Regression:</li> <li>Regression, lines of regression, Methods of finding regression lines by method of least squares.</li> </ul>	13%	6

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

- 1. Calculus with early transcendental functions James Stewart; Cengage Learning
- 2. Biostatistics Subhamarian S.
- 3. Biostatistics and Computer Y. I. Shaikh
- 4. Basic Biostatistics G. C. Patel

# Department of CDC

#### SYLLABUS FOR 2nd Sem B.Sc. PROGRAMME

Communication Skills-II (11193151)

Type of Course: B.Sc.

# Prerequisite:

# Rationale:

### **Teaching and Examination Scheme:**

Teaching Scheme (Hrs./Week)				Examination Scheme					
Loot	Tut	Lah	Credit	Exte	Internal			Total	
Leci	Tut	Lau		т	Р	Т	CE	Р	
2	0	0	2	60	-	20	20	-	100

Lect - Lecture, Tut - Tutorial, Lab - Lab, T - Theory, P - Practical, CE - CE, T - Theory, P - Practical

Sr.	Торіс	Weightage	Teaching Hrs.
1	Unit-1: Vocabulary and Grammar: Adjectives, Degree of Comparison, Conjunctions, vocabulary on 'How to talk about science and scientists'	27%	8
2	Unit-2: Listening Skills: Speeches by the leaders (Audio – Video)	6%	2
3	Unit-3: Speaking Skills Speaking: (a) To speak on a given topic for 2 minutes, Category: Comparison-contrast and Problem – solution, (b) Cue Card (like IELTS exam) - To speak on a given topic, using the prompts to guide you, for 3 minutes, Presentation Task, Group Discussion	27%	8
4	Unit-4: Writing Skills (a) single Picture Description, (b) Picture description – comparison, Note Making, Precise Writing, Writing task: Comparison-contrast and Problem-solution	27%	8

	Unit-5:		
	Writing a Book Review		
5	List of Books Suggested for the Book Review: The Secret by Rhonda Byrne, Wings of Fire by A P J Abdul Kalam, Who Moved My Cheese by Dr Spancer Johnson, You Can Win by Shiv Khera, Stay Hungry Stay Foolish by Rashmi Bansal, I am Ok You are Ok by Thomas Harris, The Seven Habits of Highly Effective People by Stephen Covey , The Eighth Habit by Stephen Covey, Bhagvat Gita on Effective Leadership by Poojan Roka, The Kalam Effect by Nair, Tough Times Never Last But Tough People Do by Dr. Robert Schuller, What Employers Want But Business Schools Don't Teach by Yasmin D'sousa and Amitabh Singh, Freedom is not Free by Shiv Khera, Be an Extraordinary Person in an Extraordinary World by Robert Schuller, Making Miracles by Arnold Fox and Barry Fox , The Road Less Travelled by M. Scott Peck to Name a few., I have a Dream by Rashmi Bansal, Connect the Dots by Rashmi Bansal, The saint, The Surfer and the CEO by Robin Sharma, Attitude is Everything by Jeff Keller <b>NOTE: These are few references of books. Students can prepare</b> <b>book review on a book of their choice after consulting tutorial</b> <b>faculty</b>	13%	4

It consists of Assignments/Seminars/Presentations/Quizzes/Surprise Tests (Summative/MCQ) etc.

- 1. English for Academic Purposes-I Deeptha Achar
- 2. Technical Communication : Principles And Practice Sangeetha Sharma, Meenakshi Raman
- 3. Barron's The Leader in Test Preparation Dr. Lin Lougheed
- 4. UTS In search English Prepare for IELTS Academic module 2012, University of Technology, Sydney
- 5. Developing Reading Skills: A Practical Guide to Reading Comprehension Exercises Frangoise Grellet
- 6. How to write better essays Palgrave-Macmillan: Basingstoke Greetham
- 7. Communication Skills Parul Popat and Kaushal Kotadia
- 8. Teaching Beginning Reading and Writing with the Picture World Inductive Model Emily F. Calhoun