SYLLABUS

THREE YEAR DEGREE COURSE (TDC)

SEMESTER SYSTEM

EFFECTIVE FROM 2010 – 2011

TDC Syllabus for Science Course Structure

ASSAM UNIVERSITY :: SILCHAR
(A Central University Established under Act XIII of 1989)
Silchar, Assam, India

TDC SYLLABUS FOR

ANTHROPOLOGY

[PASS COURSE—ARTS / SCIENCE STREAM]

COURSE STRUCTURE

	B.A./ B.Sc.	
	Semester I	
Course 101 (Theory)	**Foundations of Anthropology I**	**Marks 35**
	B.A./ B.Sc.	
	Semester II	
Course 201 (Theory)	**Foundations of Anthropology II**	**Marks 35**
Course 202 (Practicals)	**Practicals in Physical Anthropology**	**Marks 30**
	B.A./ B.Sc.	
	Semester III	
Course 301 (Theory)	**Physical Anthropology**	**Marks 35**
	B.A./ B.Sc.	
	Semester IV	
Course 401 (Theory)	**Archaeological Anthropology**	**Marks 35**
Course 402 (Practicals)	**Practicals in Physical and Archaeological Anthropology**	**Marks 30**
	B.A./ B.Sc.	
	Semester V	
Course 501 (Theory)	**Culture and Society**	**Marks 35**
	B.A./ B.Sc.	
	Semester VI	
Course 601 (Theory)	**Primitive Economy and Religion**	**Marks 35**
Course 602 (Practicals)	**Field Work and Report Writing**	**Marks 30**

Note : There will be 60 lectures for each course.

TDC SYLLABUS FOR

ALTERNATIVE ENGLISH

COURSE STRUCTURE

	Semester	Course No.	Name of paper	Full marks
Alt. Eng.	III	ENGL – 301 (Science, Arts & Commerce)	Poetry, One Act Play (Selected pieces)	50
	IV	ENGL – 401 (Science, Arts & Commerce)	Composition, Short Story & Non fictional prose	50

TDC SYLLABUS FOR
BIOTECHNOLOGY (PASS COURSE)

COURSE STRUCTURE

Paper No	Name of the Paper	F.M.	P.M.	Lectures
1ST SEM. BTCP-101 (Th.)	Cell Biology & Biochemistry	35	12	65
2ND SEM. BTCP-201 (Th.)	Microbiology, Biostatistics & Bio informatics	35	12	65
BTCP-202 (Pr.)	Bio-Chemical Techniques & Microbiological Techniques	30	10	120
3RD SEM. BTCP-301 (Th.)	Genetics & Molecular Biology	35	12	65
4TH SEM. BTCP-401 (Th.)	Recombinant DOVA Tech. & Immunology	35	12	65
BTCP-402 (Pr.)	Methods in Cell and Mol. Biology	30	10	120
5TH SEM. BTCP-501 (Th.)	Plant Biotechnology & Environmental Biotechnology	35	12	65
6TH SEM. BTCP-601 (Th.)	Animal Cell Culture & Animal Biotechnology	35	12	65
BTCP-602 (Pr.)	Culture Methods	30	10	120

TDC SYLLABUS FOR
BIOTECHNOLOGY (HONOURS COURSE)
COURSE STRUCTURE

Paper No	Name of the Paper	F.M.	P.M.	Lectures
1ST SEM.				
BTCH-101 (Th.)	Biochemistry I	Marks-35	12	75
BTCH-102 (Th.)	Biostatistics & Computer	Marks-35	12	75
BTCH-103 (Th.)	Microbiology I	Marks-35	12	75
2ND SEMESTER				
BTCH-201 (Th.)	Biochemistry II	Marks-35	12	75
BTCH-202 (Th.)	Cell biology & Biological Techniques	Marks-35	12	75
BTCH-203 (Th.)	Microbiology II	Marks-35	12	75
BTCH-204 (Pr.)	Practicals	Marks-90	30	
	A. Biochemical Techniques	Marks-60		150
	B. Handling of Computer & Data Analysis	Marks-15		
	C. Job Training	Marks-15		
3RD SEMESTER				
BTCH-301 (Th.)	Genetics	Marks-35	12	75
BTCH-302 (Th.)	Molecular Biology	Marks-35	12	75
BTCH-303 (Th.)	Immunology I	Marks-35	12	75
4TH SEMESTER				
BTCH-401(Th.)	Immunology II	Marks-35	12	75
BTCH-402 (Th.)	Animal Cell Culture	Marks-35	12	75
BTCH-403 (Th.)	Animal Biotechnology	Marks-35	12	75
BTCH-404 (Pr.)	Practicals	Marks-90	30	150
	A. Microbiological	Marks-45		
	B. Immunological Technique	Marks-30		
	C. Job Training	Marks-15		
5TH SEMESTER				
BTCH-501 (Th.)	Recombinant DNA Technology I	Marks-35	12	75
BTCH-502 (Th.)	Plant Biotechnology I	Marks-35	12	75
BTCH- 503 (Th.)	Environmental Biotechnology	Marks- 35	12	75
BTCH- 601(Th.)	Recombination on Technology II	Marks-35	12	75
BTCH-602 (Th.)	Plant Biotechnology II	Marks-35	12	75
BTCH-603 (Th.)	Bioinformatics	Marks-35	12	75
BTCH-604 (Pr.)	Practicals	Marks-90	30	150
	Section A. Methods in Cell and and Molecular Biology	Marks-35		
	Section B. Culture Methods	Marks-30		
	Section C. Project Work under chosen Faculty	Marks-25		

TDC SYLLABUS FOR

BOTANY

[PASS COURSE]

COURSE STRUCTURE

Paper No.	Name of the Paper	Total Marks	Pass Marks
BOTP-101	Diversity of Microbes & Cryptogams	35	12
BOTP-201	Cytogenetics	35	12
BOTP-202	Practical	30	10
BOTP-301	Diversity of seed plants & their systematics	35	12
BOTP-401	Structure, development and reproduction in floweing plant	35	12
BOTP-402	Practical	30	10
BOTP-501	Plant physiology & Biochemistry	35	12
BOTP-601	Biotechnology, Ecology & utilization of Plants	35	12
BOTP-602	Practical	30	10

TDC SYLLABUS FOR
BOTANY
[HONOURS COURSE]

COURSE STRUCTURE

Paper No.	Name of the Paper	Total Marks	Pass Marks
BOTH-101	History of Microbiology,	35	12
BOTH-102	Diversity of Cryptogams	35	12
BOTH-103	Evolution,diversity of phanerogams	35	12
BOTH-201	Diversity & phanerogams	35	12
BOTH-202	Ecology & Phytogeography		
BOTH-203	Cell Biology		
BOTH-204	Practical	90	30
BOTH-301	Plant physiology & Biochemistry-I	35	12
BOTH-302	Plant Physiology & Biochemistry-II	35	12
BOTH-303	Development of plants & their utilization	35	12
BOTH-401	Ethnobatany, Horticulture,Palynology & Palaeobotany	35	12
BOTH-402	Biology & Cryptoganus	35	12
BOTH-403	Biology & seed plants	35	12
BOTH-404	Practical	90	30
BOTH-501	Biology & Systematics of Angiosperm	35	12
BOTH-502	Environmental Biology	35	12
BOTH-503	Genetics	35	12
BOTH-601	Plant Breeding, Moleculer Biology & Biotechnology	35	12
BOTH-602	Microbiology	35	12
BOTH- 603	Plant Pathology	35	12
BOTH-604	Practical	90	30

TDC SYLLABUS FOR
CHEMISTRY (HONOURS)
COURSE STRUCTURE

Course No.	Paper Name	Full Marks	Pass Marks
	First Semester (Hons)		
CHMH-101	Inorganic Chemistry	35	12
CHMH-102	Organic Chemistry	35	12
CHMH-103	Physical Chemistry	35	12
	Second Semester (Hons)		
CHMH-201	Inorganic Chemistry	35	12
CHMH-202	Organic Chemistry	35	12
CHMH-203	Physical Chemistry	35	12
CHMH-204	Practical	90	30
	Third Semester (Hons)		
CHMH-301	Inorganic Chemistry	35	12
CHMH-302	Organic Chemistry	35	12
CHMH-303	Physical Chemistry	35	12
	Fourth Semester (Hons)		
CHMH-401	Inorganic Chemistry	35	12
CHMH-402	Organic Chemistry	35	12
CHMH-403	Physical Chemistry	35	12
CHMH-404	Practical	90	30
	Fifth Semester (Hons)		
CHMH-501	Inorganic Chemistry	35	12
CHMH-502	Organic Chemistry	35	12
CHMH-503	Physical Chemistry	35	12
	Sixth Semester (Hons)		
CHMH-601	Inorganic Chemistry	35	12
CHMH-602	Organic Chemistry	35	12
CHMH-603	Physical Chemistry	35	12
CHMH-604	Practical	90	30

CHEMISTRY (PASS)

COURSE STRUCTURE

Course No.	Paper Name	Full Marks	Pass Marks
	First Semester (Pass)		
CHMP-101	Chemistry *Group A: Inorganic Chemistry* *Group B: Organic Chemistry* *Group C: Physical Chemistry*	35	12
	Second Semester (Pass)		
CHMP-201	Chemistry *Group A: Inorganic Chemistry* *Group B: Organic Chemistry* *Group C: Physical Chemistry*	35	12
CHMP-202	Practical	30	10
	Third Semester (Pass)		
CHMP-301	Chemistry *Group A: Inorganic Chemistry* *Group B: Organic Chemistry* *Group C: Physical Chemistry*	35	12
	Fourth Semester (Pass)		
CHMP-401	Chemistry *Group A: Inorganic Chemistry* *Group B: Organic Chemistry* *Group C: Physical Chemistry*	35	12
CHMP-402	Practical	30	10
	Fifth Semester (Pass)		
CHMP-501	Chemistry *Group A: Inorganic Chemistry* *Group B: Organic Chemistry* *Group C: Physical Chemistry*	35	12
	Sixth Semester (Pass)		
CHMP-601	Chemistry *Group A: Inorganic Chemistry* *Group B: Organic Chemistry* *Group C: Physical Chemistry*	35	12
CHMP-602	Practical	30	10

TDC SYLLABUS FOR
COMPUTER SCIENCE

B.Sc. (HONOURS)

COURSE STRUCTURE

Course No	SEMESTER III		Course No	SEMESTER IV	
	Paper Name	Marks		Paper Name	Marks
BCSH 301	System Analysis and Design	35	BCSH 401	Scientific Computation	35
BCSH 302	Digital Electronics and Computers	35	BCSH 402	Discrete Mathematics	35
BCSH 303	Object oriented Programming in C++	35	BCSH 403	Visual basic	35
BCSH 304	Data structures and Applications	35	BCSH 404	Computer System Architecture	35
			BCSH 404 (a)	Practical on Data structures and Object oriented Programming in C++	45 + 45 = 90
			BCSH 404(b)	Practical on Scientific Computation	
			BCSH 404(b)	Practical on Visual Basic, and Database Management System	

Contact hour /paper/week: For each theory course in a semester there will be 05 lectures classes per week each of 45 minutes duration. Where as for each practical course/paper the number of classes per week shall be 06 each of 45 minutes duration.

Note : 1. The number of classes per course (Theory and Practical) per semester should not be lass than 75 lecturers/classes each of being 45 minitues duration.

2. The Classes for all the practical courses should be held round the year though the examination for the practical courses shall be held at the end of the year only.

TDC SYLLABUS FOR

COMPUTER SCIENCE

B.Sc. (PASS)

COURSE STRUCTURE

Course No	SEMESTER I		Course No	SEMESTER II	
	Paper Name	Marks		Paper Name	Marks
BCSP 101	Digital Electronics, Fundamentals of Computers and Computer System Architecture	35	BCSP 201	Programming in FORTRAN	35
			BCSP 202	Practical on Programming in FORTRAN	30

Course No	SEMESTER III		Course No	SEMESTER IV	
	Paper Name	Marks		Paper Name	Marks
BCSP 301	Programming in C and Data Structures	35	BCSP 401	Operating System Architecture and System Analysis and Design	35
			BCSP 402	Practical on Programming in C and Data Structures	30

Course No	SEMESTERV		Course No	SEMESTER VI	
	Paper Name	Marks		Paper Name	Marks
BCSP 501	Computer Network and data Communication	35	BCSP 601	Data Base Management System and Visual Basic	35
			BCSP 602	Practical on Data Base Management System and Visual Basic	30

Contact hour /paper/week: For each theory course in a semester there will be 03 lectures classes per week each of 45 minutes duration. Where as for each practical course/paper the number of classes per week shall be 06 each of 45 minutes duration.

TDC SYLLABUS FOR

BACHELOR OF COMPUTER APPLICATION

(HONOURS)

Note :

1. BCA is treated as Honors level course.
2. The papers of the Honors part of BCA consists of papers as per guidelines of the honors courses. The paper code is BCAC 101, BCAC 201 etc.
3. The papers of the pass (elective) courses of BCA consists of papers of Elective 1 and Elective II as per guidelines of the honors courses.
4. The papers under the Elective 1 (practical) are prescribed in this syllabus and are of the level of BCA (pass) having paper code as EBCA 101, EBCA 201 etc. Here each theory papers will be of 35 marks and each practical paper will be of 30 marks.
5. The papers under the Elective II are not prescribed in this syllabus since these belong to the level of BCA (pass) in Mathematics (non practical) of the University and hence will remain as the same with pass course in Mathematics having paper code as MTMP 101 MTMP 201 etc. each one of being 50 marks.
6. The language and foundation courses shall remain as the same with rest of the courses of graduation level of the university.

The following is the course structure of BCA course of Assam University under semester pattern.

COURSE STRUCTURE OF BCA

Course No.	SEMESTER I		Course No.	SEMESTER II	
	Paper Name	Marks		Paper Name	Marks
BCAC 101	Digital logic.	35	**BCAC 201**	Computer System Architecture.	35
BCAC 102	Programming with C	35	**BCAC 202**	Discrete Mathematics	35
BCAC 103	Programming with Fortran	35	**BCAC 203**	Data structures	35
			BCAC 204	Practical on Data Structures & C	90
EBCA 101	System Programming Elective-I	35	**EBCA 201**	Numerical and statistical Methods	35
			EBCA 202	Practical on Numerical and Statistical Methods with Fortran	30

Course No.	SEMESTER III		Course No.	SEMESTER IV	
	Paper Name	Marks		Paper Name	Marks
BCAC 301	Object oriented Programming (C++).	35	BCAC 401	Object oriented Programming (JAVA).	35
BCAC 302	Visual Basic	35	BCAC 402	Database management system	35
BCAC 303	System Analysis and Design	35	BCAC 403	Operating System and System Programming	35
			BCAC 404	Project	90
EBCA 301	Business organization and Management	35	EBCA 401	Management Information system	35

Course No.	SEMESTER V		Course No.	SEMESTER VI	
	Paper Name	Marks		Paper Name	Marks
BCAC 501	Design and Analysis of Computer Algorithm.	35	BCAC 601	Computer Network and Data Communication.	35
BCAC 502	Computer Graphics	35	BCAC 602	Internet Programming	35
BCAC 503	Fundamental of E Commerce.	35	BCAC 603	Web Technology	35
			BCAC 604	Practical on Practical on Computer Graphics and Object Oriented Programming (C++)	45
					Total 90
EBCA 501	Software Engineering	35	EBCA 601	Accounting and Financial management	35
			EBCA 602	Practical on Accounting and Financial Management	30
			EBCA 402	Practical on Visual Basic & Data base Management System.	30

Contact hour /paper/week: For each theory course in a semester there will be 05 lectures classes per week each of 45 minutes duration. Where as for each practical course/paper the number of classes per week shall be 06 each of 45 minutes duration.

Note :

1. The number of classes per course (Theory and Practical) per semester should not be less than 75 each of being 45 minutes duration.
2. The classes for all practical courses should be held round the year though the examination for the practical courses shall be held at the end of the year only.

TDC SYLLABUS FOR

GENERAL ENGLISH (ENGG.)

[PASS & HONOURS COURSE—SCIENCE STREAM]

COURSE STRUCTURE

	I	ENGG – 101 (Science)	Grammar, Selected items	50
	II	ENGG – 201 (Science)	Comprehension, Selected Pieces	50

TDC SYLLABUS FOR
ECONOMICS

Structure of T. D. C. Pass course in Economics (Semester System)

Exam.	Paper	Name of the Course	Marks
1st Semester	Paper-ECOP 101	Microeconomics-I	50
2nd Semester	Paper-ECOP 201	Microeconomics-II	50
3rd Semester	Paper-ECOP 301	Macroeconomics-I	50
4th Semester	Paper-ECOP 401	Macroeconomics-II	50
5th Semester	Paper-ECOP 501	Development of Indian Economy (since Independence)-I	50
6th Semester	Paper-ECOP 601	Development of Indian Economy (since Independence)-II	50

Structure of T.D.C. Honours course in Economics (Semester System)

Exam.	Paper	Name of the Course	Marks
First Semester			
	ECOH-101	Microeconomics-I	50
	ECOH-102	Macroeconomics-I	50
	ECOH-103	Mathematics for Economics-I (for Arts)	50
	ECOH-103	Elements of Mathematical Economics-I (for Science)	50
Second Semester			
	ECOH-201	Micro Economics-II	50
	ECOH-202	Macro Economics-II	50
	ECOH-203	Mathematics for Economics-II (for Arts)	50
	ECOH-203	Elements of Mathematical Economics-II (for Science)	50
Third Semester			
	ECOH-301	Development and Environmental Economics-I	50
	ECOH-302	Public Finance	50
	ECOH-303	Development of Indian Economy (since Independence)-I	50

Fourth Semester

ECOH-401	Development and Environmental Economics-II	50
ECOH-402	International Economics	50
ECOH-403	Development of Indian Economy (since Independence)-II	50

Fifth Semester

ECOH-501	History of Economic Thought-I	50
ECOH-502	Statistics for Economics-I (for Arts)	50
ECOH-502	Elements of Econometrics-I (for Science)	50

Optional Papers

Paper - ECOH-503 (A) Demography-I	50
Paper - ECOH-503 (B) Agricultural Economics-I	50
Paper - ECOH-503 (C) Computer and Its Applications-I	50
Paper - ECOH-503 (D) Banking and Financial Markets-I	50

Sixth Semester

ECOH-601	History of Economic Thought-II	50
ECOH-602	Statistics for Economics-II (for Arts)	50
ECOH-602	Elements of Econometrics-II (for Science)	50

Optional Papers

Paper - ECOH-603 (A) Demography-I	50
Paper - ECOH-603 (B) Agricultural Economics-I	50
Paper - ECOH-603 (C) Computer and Its Applications-I	50
Paper - ECOH-603 (D) Banking and Financial Markets-I	50

Students of Fifth and Sixth Semester Economics (Honours) will have to choose one optional paper to be offered by the college depending on availability of faculty.

ASSAM UNIVESITY: SILCHAR
Three Year B.Sc. (Pass)

ECOLOGY AND ENVIRONMENTAL SCIENCE

COURSE STRUCTURE

Semester	Course No.	Theory/Practical	Marks
First	**EESP-101**	Basic concepts of Ecology and Environmental Science	**35**
Second	**EESP-201**	Environmental factors and Natural Resources	**35**
	EESP-202	Practical	**30**
Third	**EESP-301**	Ecosystem Analysis	**35**
Fourth	**EESP-401**	Population and Community Ecology	**35**
	EESP-402	Practical	**30**
Fifth	**EESP-501**	Biodiversity Conservation	**35**
Sixth	**EESP-601**	Environmental Pollution and management	**35**
	EESP-602	Practical	**30**
TOTAL MARKS			**300**

TDC SYLLABUS FOR

FOUNDATION COURSE

IN

ENVIRONMENTAL STUDIES

For Under Graduate (UG) in Semester System

FIFTH SEMESTER

Course no. 501

Full Marks – 50

Pass Marks – 17

UNIT – I	The Earth and its Environment	10 Marks
UNIT – II	Basic concepts of Ecology	10 Marks
UNIT – III	Man and His Environment	10 Marks
UNIT – IV	Environmental Pollution	10 Marks
UNIT – V	Important Environmental Issues and Case Studies in Environmental Problems.	10 Marks

Suggested readings :

1. Our Environment – by Prof. Abhik Gupta, Prof. P. R. Bhattacharjee and Dr. Mithra Dey.
2. Text Book of Environmental Studies – by Bharucha, E. (2005), University Press (India) Pvt. Ltd. Hyderabad.

SIXTH SEMESTER

Course No. 601

Full Marks – 50
Pass Marks – 17

UNIT – I	Pollution and Health	10 Marks
UNIT – II	Environmental Conservation and Management	10 Marks
UNIT – III	Sustainable Development and Integrated Environmental Management and Economy and the Environment	10 Marks
UNIT – IV	Women and Environmental Sustenance	10 Marks
UNIT – V	Environmental Awareness and Action	10 Marks

Suggested readings :

1. Our Environment – by Prof. Abhik Gupta, Prof. P. R. Bhattacharjee and Dr. Mithra Dey.
2. Text Book of Environmental Studies – by Bharucha, E. (2005), University Press (India) Pvt. Ltd. Hyderabad.

TDC SYLLABUS FOR

GEOGRAPHY [HONOURS COURSE]

COURSE STRUCTURE :

1st YEAR	
1st semester	**2nd semester**
GEOH. 101 (Theory)	GEOH. 201 (Theory)
GEOH. 102 (Theory)	GEOH. 202 (Theory)
GEOH. 103 (Theory)	GEOH. 203 (Theory)
	GEOH. 204 (Pract.)

2nd YEAR	
3rd semester	**4th semester**
GEOH. 301 (Theory)	GEOH. 401 (Theory)
GEOH. 302 (Theory)	GEOH. 402 (Theory)
GEOH. 303 (Theory)	GEOH. 403 (Theory)
	GEOH. 404 (Pract.)

3rd YEAR	
5th semester	**6th semester**
GEOH. 501 (Theory)	GEOH. 601(Theory)
GEOH. 502 (Theory)	GEOH. 602 (Theory)
GEOH. 503 (Theory)	GEOH. 603 (Theory)
	GEOH. 604 (Pract.)

GEOH-101. Geomorphology	Marks-35	Pass Marks-12
GEOH-102. Climatology and Oceanography	Marks-35	Pass Marks-12
GEOH-103. Regional Geography of India	Marks-35	Pass Marks-12
GEOH-201. Geography of Population	Marks-35	Pass Marks-12
GEOH-202. Settlement Geography	Marks-35	Pass Marks-12
GEOH-203. Regional Geography of North-East India	Marks-35	Pass Marks-12
GEOH-204. General Cartography – (Practical)	Marks-90	Pass Marks-30
GEOH-301. Human Geography	Marks-35	Pass Marks-12
GEOH-302. Evolution of Geographical thought	Marks-35	Pass Marks-12
GEOH-303. Regional Geography of Asia	Marks-35	Pass Marks-12
GEOH-401. Political Geography	Marks-35	Pass Marks-12
GEOH-402. Urban Geography	Marks-35	Pass Marks-12
GEOH-403. Regional Geography of North-East India	Marks-35	Pass Marks-12
GEOH-404. General Cartography and Field Study (Practical)	Marks-90	Pass Marks-30
GEOH-501. Social Geography	Marks-35	Pass Marks-12
GEOH-502. Agricultural Geography	Marks-35	Pass Marks-12
GEOH-503. Remote Sensing	Marks-35	Pass Marks-12
GEOH-601. Geography of the Environment	Marks-35	Pass Marks-12
GEOH-602. Regional Planning	Marks-35	Pass Marks-12
GEOH-603. Geography of Resource	Marks-35	Pass Marks-12
GEOH-604. General Cartography and Statistics (Practical)	Marks-90	Pass Marks-30

TDC SYLLABUS FOR

GEOGRAPHY

[PASS COURSE—B.A. / B.Sc.]

COURSE STRUCTURE :

1st YEAR		2nd SEMESTER	
1st semester	2nd semester	3rd semester	4th semester
GEOP. 101 (Theory)	GEOP. 201 (Theory) GEOP. 202 (Pract)	GEOP. 301 (Theory)	GEOP. 401 (Theory) GEOP. 402 (Pract)

3rd SEMESTER	
5th semester	6th semester
GEOP. 501 (Theory)	GEOP. 601(Theory) GEOP. 602 (Pract)

GEOP. 101. GEOMORPHOLOGY Full Marks-35Pass Marks-12
GEOP. 201. CLIMATOLOGY AND OCEANOGRAPHY Full Marks-35 Pass Marks-12
GEOH-202. GENERAL CARTOGRAPHY-I (Practical) Full Marks-30 Pass Marks-10
GEOH-301. REGIONAL GEOGRAPHY OF INDIA Full Marks-35Pass Marks-12
GEOH-401. REGIONAL GEOGRAPHY OF NORTH-Full Marks-35Pass Marks-12 EAST INDIA
GEOH-402. GENERAL CARTOGRAPHY-II (Practical) Full Marks-30 Pass Marks-10

TDC SYLLABUS FOR

GEOLOGY

[PASS & HONOURS COURSE]

GEOLOGY (HONOURS)
COURSE STRUCTURE

FIRST YEAR
1ST SEMESTER

GELH 101 (THEORY)

GROUP- A : General and Physical Geology I	= 15 marks
GROUP- B : Crystallography I	= 10 marks
GROUP- C : Mineralogy I	= 10 marks
Total :	= 35 marks

GELH 102 (THEORY)

GROUP- A: Petrology I	= 15 marks
GROUP- B: Palaeontology I	= 10 marks
GROUP- C: Structural Geology I	= 10 marks
Total:	= 35 marks

GELH 103 (THEORY)

GROUP- A: Mineral Optics I	= 13 marks
GROUP- B: Principles of Stratigraphy I	= 15 marks
GROUP- C: Planetary Geology I	= 07 marks
Total :	= 35 marks

2ND SEMESTER

GELH 201 (THEORY)

GROUP- A : General & Physical Geology II	= 15 marks
GROUP- B : Crystallography II	= 10 marks
GROUP- C : Mineralogy II	= 10 marks
Total:	= 35 marks

GELH 202 (THEORY)

GROUP- A : Petrology II	= 15 marks
GROUP- B : Palaeontology II	= 10 marks
GROUP- C : Structural Geology II	= 10 marks
Total :	= 35 marks

GELH 203 (THEORY)

GROUP- A : Mineral Optics II	= 13 marks
GROUP- B : Principles of Stratigraphy II	= 14 marks
GROUP- C : Planetary Geology II	= 08 marks
Total :	= 35 marks

GELH 204(PRACTICAL)

GROUP- A : Crystallography	= 10 marks
GROUP- B : Mineralogy	= 10 marks
GROUP- C : Mineral Optics	= 15 marks
GROUP- D : Petrology I	= 15 marks
GROUP- E : Palaeontology I	= 20 marks
GROUP- F : Laboratory Records	= 10 marks
GROUP- G: Viva	= 10 marks
Total:	= 90 marks

SECOND YEAR
3RD SEMESTER

GELH – 301 (THEORY)

GROUP- A: Petrology III = 13 marks
GROUP- B: Palaeontology III = 12 marks
GROUP- C: Structural Geology III = 10 marks
Total: = 35 marks

GELH – 302 (THEORY): -

GROUP- A: Gemorphology I = 12 marks
GROUP- B: Indian Stratigraphy I = 13 marks
GROUP- C: Environmental Geology I = 10 marks
Total: = 35 marks

GELH – 303 (THEORY)

GROUP- A: Economic Geology I = 13 marks
GROUP- B: Ground Water Geology I = 12 marks
GROUP- C: Oceanography I = 10 marks
Total: = 35 marks

4TH SEMESTER

GELH – 401 (THEORY)

GROUP- A: Petrology IV = 12 marks
GROUP- B: Palaeontology IV = 13 marks
GROUP- C: Structural Geology IV = 10 marks
Total: = 35 marks

GELH – 402 (THEORY)

GROUP-A: Geomorphology II = 13 marks
GROUP- B: Indian StratigraphyII = 12 marks
GROUP- C: Environmental GeologyII = 10 marks
Total : = 35 marks

GELH – 403 (THEORY)

GROUP- A: Economic GeologyII	= 12 marks
GROUP- B: Ground Water GeologyII	= 13 marks
GROUP- C: OceanographyII	= 10 marks
Total:	= 35 marks

GELH – 404 (PRACTICAL)

GROUP- A: Petrology II	= 20 marks
GROUP- B: Palaeontology II	= 15 marks
GROUP- C: Structural Geology IV	= 25 marks
GROUP- D: Indian Stratigraphy	= 10 marks
GROUP- E: Laboratory Records	= 10 marks
GROUP- F: Viva	= 10 marks
Total :	= 90 marks

THIRD YEAR
5TH SEMESTER

GELH- 501 (THEORY):-

GROUP- A: Photo Geology & Remote Sensing I	= 13 marks
GROUP- B: Geotectoncis I	= 12 marks
GROUP- C: Geochemistry I	= 10 marks
Total:	= 35 marks

GELH- 502 (THEORY): -

GROUP- A: Seismology I	= 13 marks
GROUP- B: Sedimentary Petrology I	= 12 marks
GROUP- C: Environmental Geology III	= 10 marks
Total :	= 35 marks

GELH- 503 (THEORY): -

GROUP- A: Economic Geology III	= 13 marks
GROUP- B: Prospecting & Mining Geology I	= 10 marks
GROUP- C: Engineering Geology I	= 12 marks
Total:	= 35 marks

6TH SEMESTER

GELH- 601 (THEORY):-

GROUP- A: Photo Geology & Remote Sensing II	= 12 marks
GROUP- B: Geotectonics II	= 13 marks
GROUP- C: Geochemistry II	= 10 marks
Total:	= 35 marks

GELH- 602 (THEORY):-

GROUP- A: Seismology II	= 12 marks
GROUP- B: Sedimentary Petrology II	= 13 marks
GROUP- C: Environmental Geology IV	= 10 marks
Total :	= 35 marks

GELH- 603 (THEORY)

GROUP- A: Economic Geology IV	= 12 marks
GROUP- B: Prospecting & Mining Geology II	= 10 marks
GROUP- C: Engineering Geology II	= 13 marks
Total :	= 35 marks

GELH- 604 (PRACTICAL)

GROUP- A: Economic Geology	= 30 marks
GROUP- B: Petrology III, Sedimentary Petrology	= 30 marks
GROUP- C: Field Work	= 10 marks
GROUP- D: Laboratory Records	= 10 marks
GROUP- E: Viva	= 10 marks
Total :	= 90 marks

TDC SYLLABUS FOR
GEOLOGY (PASS)

COURSE STRUCTURE

FIRST YEAR

1ST SEMESTER

GELP 101 (Theory)

Group	- A	General Geology & Physical Geology I	= 10 marks
Group	- B	Crystallography I	= 08 marks
Group	- C	Mineralogy I	= 05 marks
Group	- D	Petrology I	= 12 marks
		Total	**= 35 marks**

2ND SEMESTER

GELP 201 (Theory)

Group	- A	General Geology & Physical Geology II	= 10 marks
Group	- B	Crystallography II	= 07 marks
Group	- C	Mineralogy II	= 05 marks
Group	- D	Petrology II	= 13 marks
		Total	**= 35 marks**

GELP 202 (Practical)

Group	- A	Crystallography	= 06 marks
Group	- B	Mineralogy	= 06 marks
Group	- C	Petrology I	= 08 marks
Group	- D	Laboratory records	= 05 marks
Group	- E	Viva	= 05 marks
		Total	**= 30 marks**

SECOND YEAR

3RD SEMESTER

GELP 301 (Theory)

Group	- A	Structural Geology I	= 10 marks
Group	- B	Palaeontology I	= 10 marks
Group	- C	Principles of Stratigraphy	= 10 marks
Group	- D	Optical Mineralogy I	= 05 marks
		Total	**= 35 marks**

4TH SEMESTER

GELP 401 (Theory)

Group	- A	Structural Geology II	= 10 marks
Group	- B	Palaeontology II	= 10 marks
Group	- C	Indian Stratigraphy	= 10 marks
Group	- D	Optical Mineralogy II	= 05 marks
		Total	**= 35 marks**

GELP 402 (Practical)

Group	- A	Structural Geology	= 08 marks
Group	- B	Palaeontology	= 07 marks
Group	- C	Optical Mineralogy	= 05 marks
Group	- D	Laboratory records	= 05 marks
Group	- E	Viva	= 05 marks
		Total	**= 30 marks**

THIRD YEAR

5TH SEMESTER

GELP 501 (Theory)

Group	- A	Economic Geology I	= 12 marks
Group	- B	Environmental Geology I	= 10 marks
Group	- C	Sedimentary Petrology I	= 08 marks
Group	- D	Seismology I	= 05 marks
		Total	**= 35 marks**

GELP 601 (Theory)

Group	- A	Economic Geology II	= 13 marks
Group	- B	Environmental Geology II	= 10 marks
Group	- C	Sedimentary Petrology II	= 07 marks
Group	- D	Seismology II	= 05 marks
		Total	**= 35 marks**

GELP 602 (Practical)

Group	- A	Petrology II	= 15 marks
Group	- B	Field work	= 05 marks
Group	- C	Laboratory records	= 05 marks
Group	- D	Viva	= 05 marks
		Total	**= 30 marks**

TDC SYLLABUS FOR
INDUSTRIAL FISH AND FISHERIES (IFF)
[PASS COURSE]

COURSE STRUCTURE

Paper No.	Name of Paper	Total Marks	Pass Marks
	First Semester		
Paper No.-101 (Theory)	Fish Biology	35	12
	Second Semester		
Paper No.-201 (Theory)	Fish Development & Capture Fisheries	35	12
Paper No.-202 **(Pratical)**		30	10
	Third Semester		
Paper No.-301 (Theory)	Aquaculture, Fish Genetetics and Biotechnology	35	12
	Fourth Semester		
Paper No.-401 (Theory)	Fish Genetics, Fish Breeding & Freshwater Aquaculture	35	12
Paper No.-402 **(Practical)**		30	10
	Fifth Semester		
Paper No.-501 (Theory)	Coastal Aquaculture, Fish Diseases & Aquarium Management	35	12
	Sixth Semester		
Paper No.-601 (Theory)	Biology of Aquarium Fishes, Post Harvest Technology, Economics & Extension of Fisheries	35	12
Paper No.-602 **(Practical)**		30	10

TDC SYLLABUS FOR

MATHEMATICS

[PASS COURSE—ARTS/ SCIENCE STREAM]

COURSE STRUCTURE

Total : Six Semesters : 06 Papers : Marks : 300 : 540 Lectures
(Duration : One Hour Per Lecture)

TDC SYLLABUS FOR
MATHEMATICS

[HONOURS COURSE—ARTS/ SCIENCE STREAM]

COURSE STRUCTURE

Paper No.	Name of the paper	Course	Marks	Lectures
MTMH-101	Classical Algebra & Trigonometry	A. Classical Algebra B. Trigonometry	30 20	75
MTMH-102	Differential Calculus & Integral Calculus-I	A. Differential Calculus B. Integral Calculus-I	40 10	75
MTMH-103	Geometry	Geometry	50	75
MTMH-201	Modern Algebra	Modern Algebra	50	75
MTMH-202	Integral Calculus-II & Differential Equations	A. Integral Calculus-II B. Differential Equations	10 40	75
MTMH-203	Vectors & Computer Fundamentals	A. Vectors B. Computer Fundamentals	30 20	75
MTMH-301	Real Analysis	Real Analysis	50	75
MTMH-302	Statics	Statics	50	75
MTMH-303	Linear Algebra	Linear Algebra	50	75
MTMH-401	Complex Analysis	Complex Analysis	50	75
MTMH-402	Dynamics	Dynamics	50	75
MTMH-403	Topology	Topology	50	75
MTMH-501	Numerical Analysis	Numerical Analysis	50	75
MTMH-502	Linear Programming	Linear Programming	50	75
MTMH-503	Optional OP-1 Advanced Algebra OP-2 Special Functions	Advanced Algebra Special Functions	50	75
MTMH-601	Computer Programming, in C	Computer Programming, in C	30	60
MTMH-602	Number Theory and Tensors	A. Number Theory B. Tensors	30 20	75
MTMH-603	Optional OP-1 Advanced Analysis OP-2 Hydrodynamics	Advanced Analysis Hydrodynamics	50	75
MTMH-604	Practical (Based on Paper-601)		20	30

Total: Six Semesters: 19 Papers: Marks: 900 (Theory: 870 + Practical: 30): 1365 Lectures
(Duration : One Hour Per Lecture)

TDC SYLLABUS FOR
ASSAMESE MIL

For Arts, Science & Commerce

COURSE STRUCTURE

	Semester	Course No.	Semester	Course No.
Assamese MIL For Science, Arts & Commerce	3rd	ASML-301	4th	ASML-401

TDC SYLLABUS FOR
BENGALI

স্নাতক স্তরের জন্য প্রস্তাবিত পাঠ্যসূচী (ষাণ্মাসিক পর্ব)
বাংলা - সাধারণ ও সাম্মানিক (Pass & Honours) পাঠ্যত্র(ম

বিজ্ঞান বিভাগ ঃ বাংলা
আধুনিক ভারতীয় ভাষা (MIL) (BNGL)

দ্বিতীয় বর্ষ	তৃতীয় ষাণ্মাসিক পর্ব ৩০১	বিশ শতকের বাংলা সাহিত্য	৫০	১৭
	চতুর্থ ষাণ্মাসিক পর্ব ৪০১	বাংলা কথাসাহিত্য ও রচনা	৫০	১৭

TDC SYLLABUS FOR ex(.ez b{fgTXtv

HINDI)aa(

(Modern Indian Language) (For Science)

(For Science, Arts & Commerce Groups)

MIL (HINDI)

3rd Semester : Course No. 301 : Hindi Bhasha Aur Rachna

4th Sem : Course No. 401 : Hindi Aur Uski Pramukh Vidhayein

TDC SYLLABUS FOR

MANIPURI (MIL)

(For Science, Arts & Commerce)

COURSE NO-301
PROSE

Full Marks - 50
Pass Marks - 17
Objective - 10
Descriptive - 40

Sl. No.	Name of the book	Publisher
1.	*Apunba Wareng*	Manipur University, Imphal.

Selected Pieces :

i)	Samaj Amasung Sanskriti	Ch. Pishak Singh.
ii)	Ariba Manipuri Wareng	Ch. Manihar Singh.
iii)	Manipuri Sahityada Romanticism	Dr. I. R. Babu
iv)	Manipuri Sumang Lila	A. Shyamsunder
v)	Sahitya Amasung Rasa	Dwijamani Dev Sharma
vi)	Manipuri Sahityada Renaissance	N. Tombi Singh
vii)	Dr. Kamal Amasung Prakriti	E. Dinamani.

TDC SYLLABUS FOR

PHYSICS

[PASS & HONOURS COURSE]

HONOURS COURSE STRUCTURE

TDC Sem Exam	Paper Code	Name of the Paper	Final Examination marks	Contact Hours
I	H101	**Mechanics and General Properties of Matter**	**35**	**60**
		Group A Dynamics and Kinematics	15	25
		Group B Gravitation and Properties of matter	20	35
	H102	**Mathematical Physics I**	**35**	**60**
		Group A Co-ordinate System and Vectors	18	30
		Group B Matrices , special functions and Fourier series	17	30
	H103	**Geometrical Optics, Waves and Oscillations**	**35**	**60**
		Group A Geometrical optics	20	35
		Group B Waves and oscillations	15	25
II	H201	**Physical Optics**	**35**	**60**
		Group A Interference and Diffraction	20	35
		Group B Polarization, Laser and Fibre Optics	15	25
	H202	**Heat and Thermodynamics**	**35**	**60**
		Group A Heat	20	35
		Group B Thermodynamics	15	25
	H203	**Electricity and Magnetism I**	**35**	**60**
		Group A Electricity	15	25
		Group B Magnetism	20	35
	H204	**Honours Laboratory I**	**90**	**160**
III	H301	**Classical Mechanics, Theory of Relativity**	**35**	**60**
		Group A Classical Mechanics	25	40
		Group B Special Theory of relativity	10	20
	H302	**Computational Physics**	**35**	**60**
		Group A Statistical distributions and Errors	15	30
		Group B Numerical Techniques	10	15
		Group C Operating systems and Programming	10	15
	H303	**Mathematical physics II**	**35**	**60**
		Group A Differential Equations	20	30
		Group B Tensors and Complex Numbers	15	30
IV	H401	**Electricity and magnetism II**	**35**	**60**
		Group A Classical Electricity and Magnetism	10	15
		Group B Electromagnetic Theory	15	30
		Group C AC circuits	10	15
	H402	**Electronics**	**35**	**60**
		Group A Network Ananlyis and Transistors	20	30
		Group B Oscillators, Modulators and Integrated circuits	15	30
	H403	**Statistical Mechanics, Plasma Physics**	**35**	**60**
		Group A Statistical Mechanics	25	40
		Group B Plasma Physics	10	20
	H404	**Honours Laboratory II**	**90**	**160**

V	H501	**Atomic and Molecular Physics** Group A Atomic Spectra Group B Modern Physics Group C Molecular Spectra	**35** 15 10 10	**60** 30 15 15
	H502	**Condensed matter Physics** Group A Crystallography Group B Lattice Vibration, Superconductivity and Liquid Crystals	**35** 15 20	**60** 25 35
	H503	**Quantum Mechanics** Group A Concepts of Matter Waves Group B Schroedinger Picture	**35** 15 20	**60** 25 35
VI	H601	**Astrophysics and Cosmology**	**35**	**60**
		Group A Astrophysics Group B Cosmology	25 10	40 20
	H602	**Nuclear and Particle Physics** Group A Nuclear Properties and Radioactivity Group B. Nuclear Reactions and Detectors Group C Particle Physics	**35** 10 10 15	**60** 20 20 20
	H603	**Digital Electronics, Solidstate devices, Introduction to Nanophysics** Group A Digital electronics Group B Solid State Devices Group C Introduction to Nanophysics	**35** 15 10 10	**60** 30 15 15
	H604	**Honours Laboratory III**	**90**	**160**
		Total Marks	900	

PASS COURSE STRUCTURE

TDC Sem Exam	Paper Code	Name of the Paper	Final Examination marks	Contact Hours
I	P101	**Mathematical Physics, Mechanics & General Properties of matter, Relativity** Group A Mathematical Physics Group B Mechanics and General Properties of Matter and Relativity	**35** 10 25	**80** 20 60
II	P201	**Electricity & Magnetism** Group A Electrostatics Group B Magnetism Group C Electromagnetism	**35** 10 10 15	**80** 25 25 30
	P202	**General Laboratory I**	**30**	**80**
III	P301	**Heat & Thermodynamics** Group A Heat Group B Thermodynamics	**35** 15 20	**80** 40 40
IV	P401	**Waves , Oscillations and Optics** Group A Waves and Oscillations Group B Ray and Physical Optics	**35** 10 25	**80** 20 60
	P402	**General Laboratory II**	**30**	**80**
V	P501	**Quantum Mechanics, Atomic and Nuclear Physics** Group A Quantum Mechanics Group B Atomic Physics Group C Nuclear Physics	**35** 10 15 10	**80** 25 30 25
VI	P601	**Crystallography & Electronics** Group A Elements of Crystallography Group B Electronics	**35** 10 25	**80** 25 55
	P602	**General Laboratory III**	**30**	**80**
		Total Marks	300	

TDC SYLLABUS FOR

STATISTICS

[PASS COURSE—ARTS / SCIENCE STREAM]

PASS COURSE

COURSE STRUCTURE

Paper No.	Name of the Paper	Full marks	Pass marks	Lectures
STSP-101	Fundamental of Statistics, Measure of location and Dispersion Correlation and Regression, Probability Fundamentals, Conditional probability and Bayes, Theorem	35	12	60
STSP-201	Random variable, Mathematical Expectation, Probability Distribution Calculus of Finite differences. Numerical Integration	35	12	80
STSP-202	Practical	30	10	80
STSP-301	Sampling from distribution, Test of Significance, Large Sample Tests and Interval estimates. Pearsonian Chi-square test, Basic concepts of sample	35	12	80
STSP-401	Time Series, Index Number, Tests of Index Number, Sampling Technique-I, Sampling Technique-II	35	12	80
STSP-402	Practical	30	10	80
STSP-501	Fundamentals and Product Control, Process Control, Vital Statistics,Life Table & Official Statistics.	35	12	80
STST-601	Anova, Basic Design, Missing Plot Analysis, Factorial Design & Confounding.	35	12	80
STSP-602	Practical	30	10	80

TDC SYLLABUS FOR

STATISTICS

[HONOURS COURSE—ARTS / SCIENCE STREAM]

HONOURS COURSE

COURSE STRUCTURE

Paper No	Name of the Paper	Total Marks	Pass Marks	Lectures
STSH-101	Descriptive Statistics and Probability –I	35	12	60
STSH-102	Vector Space, Matrices, Real Analysis-II	35	12	60
STSH-103	Computational Techniques	35	12	60
STSH-201	Descriptive Statistics and Probability-II	35	12	60
STSH-202	Vector space, Matrices, Real Analysis-II	35	12	60
STSH-204	Practical based on 101,102,103,201,202,203	90	30	60
STSH-301	Order statistics and Non-parametric Tests	35	12	60
STSH-302	Probability Theory III and Stochastic Process – A	35	12	60
STSH-303	Theory of Estimation	35	12	60
STSH-401	Sampling Distribution and Test of Significance	35	12	60
STSH-402	Probability Theory III and stochastic Process-B	35	12	60
STSH-403	Theory of Hypothesis and C programming	35	12	60
STSH-404	Practical based on 301,302, 303, 401, 402, 403	90	30	30
STSH-501	Design of Experiments	35	12	60
STSH-502	Applied Statistics	35	12	60
STSH-503	Multivariate Analysis	35	12	60
STSH-601	Sample Survey	35	12	60
STSH-602	Demand Analysis	35	12	60
STSH-603	Operations Research and Econometrics	35	12	60
STSH-604	Practical based on 501, 502, 503, 601, 602, 603	90	30	60

TDC SYLLABUS FOR

ZOOLOGY

[PASS & HONOURS COURSE]

COURSE STRUCTURE
ZOOLOGY (PASS)

Paper No.	Name of the Paper	Full Marks	Pass Marks	Lectures
ZOOP-101	Taxonomy, Chordates & Physiology	35	12	60
ZOOP-201	Endocrinology, Histology, Biostatistics & Zoogeography	35	12	60
ZOOP-202	Practical	30	10	60
ZOOP-301	Nonchordates, Ogranic Evolution & Adaptation	35	12	60
ZOOP-401	Museology, Environmental Biology & Economic Zoology	35	12	60
ZOOP-402	Practical	30	10	60
ZOOP-501	Cell Biology, Genetics & Biochemistry	35	12	60
ZOOP-601	Biomolecules, Developmental Biology & Wild life management	35	12	60
ZOOP-602	Practical	30	10	60

COURSE STRUCTURE

ZOOLOGY (HONOURS)

Paper No.	Name of the Paper	Total Marks	Pass Marks	Lectures
ZOOH-101	Taxonomy and Lower Chordates	35	12	60
ZOOH-102	Higher chordates	35	12	60
ZOOH-103	Non-chordates I	35	12	60
ZOOH-201	Non-chordates II	35	12	60
ZOOH-202	Physiology & Biochemistry Comparative Anatomy	35	12	60
ZOOH-203	Excretion, Histology and Comparative Anatomy	35	12	60
ZOOH-204	Practial	90	30	60
ZOOH-301	Physiology & Endocrinology	35	12	60
ZOOH-302	Bio-techniques & Biostatistics	35	12	60
ZOOH-303	Cell Biology, Genetics & Space Biology	35	12	60
ZOOH-401	Zoogeography, Museology and Environmental Biology	35	12	60
ZOOH-402	Biosphere, Pollution, Adhesion & Wetland Biology	35	12	60
ZOOH-403	Evolution, Toxicology & Developmental Biology	35	12	60
ZOOH-404	Practical	90	30	60
ZOOH-501	Developmental Biology, Molecular Biology & Immunology	35	12	60
ZOOH-502	Human & Population Genetics, Radiation Biology & Animal Behavior	35	12	60
ZOOH-503	Animal Behavior, Biotechnology & Economic Zoology	35	12	60
ZOOH-601	Physiology & Bioinformatics	35	12	60
ZOOH-602	Applied Zoology - I	35	12	60
ZOOH-603	Applied Zoology-II & Biophysics	35	12	60
ZOOH-604	Practical	90	30	60