



RANI CHANNAMMA UNIVERSITY

BELAGAVI

THE COURSE STRUCTURE OF UNDER GRADUATE

BACHELOR OF SCIENCE

w.e.f.

**Academic Year 2020-21 and Onwards
Under**

CHOICE BASED CREDIT SYSTEM (CBCS)

1. KANNADA

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC KAN	Kannada Language I	4	2	80	20	100	3 Hrs
II	AECC KAN	Kannada Language II	4	2	80	20	100	3 Hrs
III	AECC KAN	Kannada Language III	4	2	80	20	100	3 Hrs
IV	AECC KAN	Kannada Language IV	4	2	80	20	100	3 Hrs

2. ENGLISH

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC ENG117	English Gems I	4	2	80	20	100	3 Hrs
II	AECC ENG118	English Gems II	4	2	80	20	100	3 Hrs
III	AECC ENG119	English Language Skills I	4	2	80	20	100	3 Hrs
IV	AECC ENG120	English Language Skills II	4	2	80	20	100	3 Hrs

3. HINDI

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	IA	Marks Exam Total	Credits
I	AECC	1) गद्य फुलवारी (गद्य संकलन) 2) हिंदी भाषा के विविध रूप 3) स्वर तथा व्यंजन 4) अनुवाद (पारिभाषिक शब्दावली)	1T*	4	3	20	80 100	3
II	AECC	1) काव्य कुसुम (कविता संकलन) 2) व्याकरण 3) पत्रलेखन	1T*	4	3	20	80 100	3
III	AECC	1) कथा भारती (कहानी संकलन) 2) भाषा संप्रेषण 3) मुहावरे और लोकोक्तियाँ 4) पर्यायवाची शब्द, विलोम शब्द, अनेक शब्दों के लिए एक शब्द	1T*	4	3	20	80 100	3
	SEC	1) संभाषण कला 2) प्रयोजनमूलक हिंदी	1T*	2	2	10	40 50	2
IV	AECC	1) मिलिगडु (उपन्यास) 2) पल्लवन तथा संक्षेपण 3) अनुवाद	1T*	4	3	20	80 100	3
	SEC	चलचित्र लेखन	1T*	2	2	10	40 50	2

4. MARATHI

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	Marks			Credits
						IA	Exam	Total	
I	AECC	विनोदी वाङ्मय	1 T	4	3	20	80	100	3
II	AECC	वाङ्मयप्रकार:नाटक	1 T	4	3	20	80	100	3
III	AECC	कादंबरी	1 T	4	3	20	80	100	3
	SEC	जाहिरात लेखन	1 T	2	2	10	40	50	2
IV	AECC	वाङ्मयप्रकार:चरित्र	1 T	4	3	20	80	100	3
	SEC	श्राव्य माध्यमांसाठी लेखन कौशल्य	1 T	2	2	10	40	50	2

5. ARABIC

Sem	Course	Title of the Paper	Paper	Teaching Hours per week	Duration of Exam (Hrs)	Marks			Credits
						IA	Exam	Total	
I	AECC	Prose, Poetry, History of Arabic literature and Grammar.	1 T	4	3	20	80	100	3
II	AECC	Prose, Poetry, History of Arabic literature and Grammar.	1 T	4	3	20	80	100	3
III	AECC	Prose, Poetry, History of Arabic literature and Grammar.	1 T	4	3	20	80	100	3
	SEC	Arabic Calligraphy	1 T	2	2	10	40	50	2
IV	AECC	Prose, Poetry, History of Arabic literature and Grammar.	1 T	4	3	20	80	100	3
	SEC	Arabic Phonetics	1 T	2	2	10	40	50	2

6. URDU

I	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
II	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
III	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
	SEC	This SEC paper as per B A IIISem Syllabi	1 T	2 Hrs	2	10	40	50	2
IV	AECC	Study of Prose and poetry	1 T*	4 Hrs	3	20	80	100	3
	SEC	This SEC paper as per B A IV semSyllabi	1 T	2 Hrs	2	10	40	50	2

7. SANSKRIT

Part 1: AECC - Ability Enhancement Compulsory Course (Basic Sanskrit)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
I	AECC SAN	Sanskrit Language I	4	2	80	20	100	3 Hrs
II	AECC SAN	Sanskrit Language II	4	2	80	20	100	3 Hrs
III	AECC SAN	Sanskrit Language III	4	2	80	20	100	3 Hrs
IV	AECC SAN	Sanskrit Language IV	4	2	80	20	100	3 Hrs

Part 3: SEC - Skill Enhancement Course for all courses (Open Elective Course)

Sem	Course Code	Title of the Paper	Teaching Hours/Week	Credits	Marks		Total	Duration of Exam
					Sem End Exam	IA		
III	SEC SAN	TRANSLATION	2	2	40	10	50	2 Hrs
IV	SEC SAN	PATHANAM	2	2	40	10	50	2 Hrs
V	SEC SAN	BHAASHAA KAUSHALAM	2	2	40	10	50	2 Hrs
VI	SEC SAN	PATRA LEKHANAM	2	2	40	10	50	2 Hrs

8. PHYSICS

B.Sc., PHYSICS Syllabus as per CBCS (With effect from the academic year 2020-21 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1 DSC	PHYDSCT1.1	Mechanics and Theory of Relativity	4	20	80	100	3
		PHYDSCP1.1	Practical I	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1 DSC	PHYDSCT2.1	Electricity & Magnetism	4	20	80	100	3
		PHYDSC P2.1	Practical II	3	10	40	50	1
		Total : Hours / Credits		7			150	4

B.Sc., PHYSICS Syllabus as per CBCS (With effect from the academic year 2021-22 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	PHYDSCT3.1	Thermodynamics-I, Sound and Waves	4	20	80	100	3
		PHYDSCP3.1	Practical III	3	10	40	50	1
	Part – 2 SEC	PHYSECT3.2	Weather Forecasting	2	10	40	50	2
		Total : Hours / Credits		9			200	6
IV	Part – 1 DSC	PHYDSCT4.1	Thermodynamics-II, Statistical Mechanics and Optics	4	20	80	100	3
		PHYDSCP4.1	Practical IV	3	10	40	50	1
	Part – 2 SEC	PHYSECT4.2	Renewable Energy sources and Energy Harvesting	2	10	40	50	2
		Total : Hours / Credits		9			200	6

B.Sc., PHYSICS Syllabus as per CBCS
(With effect from the academic year 2022-23 onwards)

Sem	Part	Paper Code	Title of Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	PHYDSET5.1	Mathematical Physics – I, Nuclear and Particle Physics and Classical Mechanics	4	20	80	100	3
		PHYDSEP5.1	Practical V	3	10	40	50	1
		PHYDSET5.2A (Elective I)	Quantum Mechanics – I, Electronics and Optoelectronics	4	20	80	100	3
		PHYDSEP5.2A (Elective I)	Practical VIA	3	10	40	50	1
		PHYDSET5.2B (Elective II)	Modern Physics - I	4	20	80	100	3
		PHYDSEP5.2B (Elective II)	Practical VIB	3	10	40	50	1
	Part – 2 SEC	PHYSECT5.3	Basic Instrumentation Skills	2	10	40	50	2
		Total : Hours / Credits		16			350	10

Note: Students have to choose either Elective-I or Elective-II

VI	Part – 1 DSE	PHYDSET6.1	Mathematical Physics – II, Atomic, Molecular and Optical Physics and Atmospheric Physics.	4	20	80	100	3
		PHYDSEP6.1	Practical VII	3	10	40	50	1
		PHYDSET6.2A (Elective III)	Quantum Mechanics – II, Condensed Matter Physics and Nanomaterials	4	20	80	100	3
		PHYDSEP6.2A (Elective III)	Practical VIIIA	3	10	40	50	1
		PHYDSET6.2B (Elective IV)	Modern Physics - II	4	20	80	100	3
		PHYDSEP6.2B (Elective IV)	Practical VIIIB	3	10	40	50	1
	Part – 2 SEC	PHYSECT6.3	Electrical Circuits And Network Skills	2	10	40	50	2
		Total : Hours / Credits		16			350	10

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)

Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

9. CHEMISTRY

(With effect from the academic year 2020-21 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1	CHEDSCT 1.1	Chemistry-1	4	20	80	100	3
	DSC	CHEDSCP 1.1	Practicals-1	3	10	40	50	1
		Total: Hours / Credits		7			150	4
II	Part – 1	CHEDSCT 2.1	Chemistry-2	4	20	80	100	3
	DSC	CHEDSCP 2.1	Practicals-2	3	10	40	50	1
		Total: Hours / Credits		7			150	4

(With effect from the academic year 2021-22 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1	CHEDSCT3.1	Chemistry-3	4	20	80	100	3
	DSC	CHEDSCP3.1	Practicals-3	3	10	40	50	1
	Part – 2 SEC	CHESECT3.2	Chemistry of Cosmetics & Perfumes	2	10	40	50	2
		Total: Hours / Credits		9			200	6
IV	Part – 1	CHEDSCT4.1	Chemistry-4	4	20	80	100	3
	DSC	CHEDSCP4.1	Practicals-4	3	10	40	50	1
	Part – 2 SEC	CHESECT4.2	Fuel Chemistry	2	10	40	50	2
		Total: Hours / Credits		9			200	6

(With effect from the academic year 2022-23 onwards)

Sem	Part	Paper Code	Title of Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	CHEDSET 5.1	Chemistry-5	4	20	80	100	3
		CHEDSEP 5.1	Practicals-5	3	10	40	50	1
		CHEDSET 5.2A (Elective I)	Chemistry-5A	4	20	80	100	3
		CHEDSEP 5.2A (Elective I)	Practicals-5A	3	10	40	50	1
		CHEDSET 5.2B (Elective II)	Chemistry-5B	4	20	80	100	3
		CHEDSEP 5.2B (Elective II)	Practicals-5B	3	10	40	50	1
	Part – 2 SEC	CHESECT5.3	Basic Analytical Chemistry	3	10	40	50	2
		Total: Hours / Credits		17			350	10

Note: Students have to choose either Elective-I or Elective-II

VI	Part – 1 DSE	CHEDSET 6.1	Chemistry-6	4	20	80	100	3
		CHEDSEP 6.1	Practicals-6	3	10	40	50	1
		CHEDSET 6.2A (Elective III)	Chemistry-6A	4	20	80	100	3
		CHEDSEP 6.2A (Elective III)	Practicals-6A	3	10	40	50	1
		CHEDSET 6.2B (Elective IV)	Chemistry-6B	4	20	80	100	3
		CHEDSEP 6.2B (Elective IV)	Practicals-6B	3	10	40	50	1
	Part – 2 SEC	CHESECT 6.3	Pharmaceutical Chemistry	3	10	40	50	2
		Total: Hours / Credits		17			350	10

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course).
Note: Duration of examinations is 03 h for 80 Marks theory and 02 h for 40 marks theory. For practicals, duration of examination is 03 h.

10. ELECTRONICS

B.Sc., ELECTRONICS Syllabus under CBCS scheme (With effect from the academic year 2020-21 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1	ELEDSC1.1	Network Analysis And Analog Electronics	4	20	80	100	3
	DSC	ELEDSC P1.1	Practical I	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1	ELEDSC2.1	Electronic Circuits And Special Purpose Devices	4	20	80	100	3
	DSC	ELEDSC P2.1	Practical II	3	10	40	50	1
		Total : Hours / Credits		7			150	4

B.Sc., ELECTRONICS Syllabus under CBCS scheme (With effect from the academic year 2021-22 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1	ELEDSC3.1	Linear Integrated Circuits And ‘C’ Programming	4	20	80	100	3
	DSC	ELEDSCP3.1	Practical III	3	10	40	50	1
	Part – 2 SEC	ELESECT3.2	Weather Forecasting	2	10	40	50	2
		Total : Hours / Credits		9			200	6
IV	Part – 1	ELEDSC4.1	Digital Electronics	4	20	80	100	3
	DSC	ELEDSCP4.1	Practical IV	3	10	40	50	1
	Part – 2 SEC	ELESECT4.2	Renewable Energy sources and Energy Harvesting	2	10	40	50	2
		Total : Hours / Credits		9			200	6

**B.Sc., ELECTRONICS Syllabus under CBCS scheme
(With effect from the academic year 2022-23 onwards)**

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	ELEDSET5.1	Communication-I	4	20	80	100	3
		ELEDSEP5.1	Practical V	3	10	40	50	1
		ELEDSET5.2A (Elective I)	Microprocessor -8085, Signals And Systems	4	20	80	100	3
		ELEDSEP5.2A (Elective I)	Practical VIA	3	10	40	50	1
		ELEDSET5.2B (Elective II)	Microprocessor -8085 & 8086	4	20	80	100	3
		ELEDSEP5.2B (Elective II)	Practical VIB	3	10	40	50	1
	Part – 2 SEC	ELESECT5.3	Basic Instrumentation Skills	2	10	40	50	2
		Total : Hours / Credits		16			350	10

Note: Students have to choose either Elective-I or Elective-II

VI	Part – 1 DSE	ELEDSET6.1	Communication-II	4	20	80	100	3
		ELEDSEP6.1	Practical VII	3	10	40	50	1
		ELEDSET6.2A (Elective III)	Microcontroller -8051 & Embedded System	4	20	80	100	3
		ELEDSEP6.2A (Elective III)	Practical VIIIA	3	10	40	50	1
		ELEDSET6.2B (Elective IV)	Microcontroller&MATLAB	4	20	80	100	3
		ELEDSEP6.2B (Elective IV)	Practical VIIIB	3	10	40	50	1
	Part – 2 SEC	ELESECT6.3	Electrical Circuits And Network Skills	2	10	40	50	2
		Total : Hours / Credits		16			350	10

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course).

Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

11. GEOGRAPHY

[illegible]

	<u>Theory – 5.5</u> Population Geography (Compulsory Paper)	SEC- III – 5.6	2	2	10	40	50	2
VI	<u>Theory – 6.1</u> [Compulsory] Regional Geography of India	DSE- 6.1	4	3	20	80	100	3
	(Choice any one from 6.2-a or 6.2-b) <u>Theory – 6.2-a</u> Settlement Geography	DSE- 6.2- a	4	3	20	80	100	3
	<u>Theory – 6.2-b</u> Regional Planning and Development	DSE- 6.2- b	4	3	20	80	100	3
	<u>Practical 1st – 6.3</u> Interpretation of IMD Weather Reports	DSE- 6.3	3	3	10	40	50	1
	<u>Practical 2nd – 6.4</u> Field Based Project work/Report	DSE- 6.4	3	3	10	40	50	1
	Skill Enhanced Course (Compulsory Paper)							
	<u>Theory – 6.5</u> Geography of India (Compulsory Paper)	SEC- IV – 6.5	2	2	10	40	50	2

Note:

DSC: Discipline Specific Course Papers [All DSC Papers are Compulsory for I sem to IV sem]

DSE : Discipline Specific Elective Papers [Students can select any one elective papers from DSE -5.2-a or 5.2-b for V semester and DSE – 6.2-a or 6.2-b for VI semester.

12. MICROBIOLOGY

(With effect from the academic year 2020-21 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1	MCBDSCT1.1	General Microbiology	4	20	80	100	3
	DSC	MCBDSCP1.1	Practicals-1	3	10	40	50	1
		Total: Hours / Credits		7			150	4
II	Part – 1	MCBDSCT2.1	Microbiological Techniques	4	20	80	100	3
	DSC	MCBDSCP2.1	Practicals-2	3	10	40	50	1
		Total: Hours / Credits		7			150	4

(With effect from the academic year 2021-22 onwards)								
Sem	Part	Paper Code	Title of thePaper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1	MCBDSCT3.1	Microbial Physiology and Genetics	4	20	80	100	3
	DSC	MCBDSCP3.1	Practicals-3	3	10	40	50	1
	Part – 2 SEC	MCBSECT3.2	Microbial quality control in Food and Pharmaceutical Industries	2	10	40	50	2
		Total: Hours / Credits		9			200	6
IV	Part – 1	MCBDSCT4.1	Molecular biology and Genetic Engineering	4	20	80	100	3
	DSC	MCBDSCP4.1	Practicals-4	3	10	40	50	1
	Part – 2 SEC	MCBSECT4.2	Microbial Diagnostic in health clinics	2	10	40	50	2
		Total: Hours / Credits		9			200	6

(With effect from the academic year 2022-23 onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	MCM DSET5.1	Environmental Microbiology	4	20	80	100	3
		MCB DSEP5.1	Practical-5	3	10	40	50	1
		MCB DSET5.2A (Elective I)	Soil and agricultural microbiology	4	20	80	100	3
		MCB DSEP5.2A (Elective I)	Practicals-5A	3	10	40	50	1
		MCB DSET5.2B (Elective II)	Microbes in Sustainable agriculture and development	4	20	80	100	3
		MCB DSEP5.2B (Elective II)	Practicals-5B	3	10	40	50	1
	Part – 2 SEC	MCB SECT5.3	Biofertilizers and Biopesticides	3	10	40	50	2
		Total: Hours / Credits			17			350
Note: Students have to choose either Elective-I or Elective-II								
VI	Part – 1 DSE	MCB DSET6.1	Food and industrial Microbiology	4	20	80	100	3
		MCB DSEP6.1	Practicals-6	3	10	40	50	1
		MCB DSET6.2A (Elective III)	Immunology and Medicinal Microbiology	4	20	80	100	3
		MCB DSEP6.2A (Elective III)	Practicals-6A	3	10	40	50	1
		MCB DSET6.2B (Elective IV)	Instrumentation and Biotechniques (Theory)	4	20	80	100	3
		MCB DSEP6.2B (Elective IV)	Practicals-6B	3	10	40	50	1
	Part – 2 SEC	MCB SECT6.3	Management of Human Microbial diseases	3	10	40	50	2
		Total: Hours / Credits			17			350
Note: Students have to choose either Elective-III or Elective-IV								

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course).

Note: Duration of examinations is 03 h for 80 Marks theory and 02 h for 40 marks theory. For practicals, duration of examination is 03 h.

13. BIOTECHNOLOGY

(With effect from the academic year 2020-21 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1	BTNDSCCT 1.1	Cell Biology and Genetics	4	20	80	100	3
	DSC	BTNDSCP 1.1	Practicals-1	3	10	40	50	1
		Total: Hours / Credits		7			150	4
II	Part – 1	BTNDSCCT 2.1	Biochemistry and Biogenetics	4	20	80	100	3
	DSC	BTNDSCP 2.1	Practicals-2	3	10	40	50	1
		Total: Hours / Credits		7			150	4

(With effect from the academic year 2021-22 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1	BTNDSCCT3.1	Microbiology and Immunology	4	20	80	100	3
	DSC	BTNDSCP3.1	Practicals-3	3	10	40	50	1
	Part – 2 SEC	BTNSECT3.2	Molecular Diagnostics	2	10	40	50	2
		Total: Hours / Credits		9			200	6
IV	Part – 1	BTNDSCCT4.1	Molecular Biology.	4	20	80	100	3
	DSC	BTNDSCP4.1	Practicals-4	3	10	40	50	1
	Part – 2 SEC	BTNSECT4.2	Industrial Fermentations	2	10	40	50	2
		Total: Hours / Credits		9			200	6

(With effect from the academic year 2022-23 onwards)

Sem	Part	Paper Code	Title of Paper	Hours/Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	BTNDSET 5.1	Plant and Animal cell Technology.	4	20	80	100	3
		BTNDSEP 5.1	Practicals 5	3	10	40	50	1
		BTNDSET 5.2A (Elective I)	Recombinant DNA Technology and Nanotechnology	4	20	80	100	3
		BTNDSEP 5.2A (Elective I)	Practicals-5A	3	10	40	50	1
		BTNDSET 5.2B (Elective II)	Bioinformatics.	4	20	80	100	3
		BTNDSEP 5.2B (Elective II)	Practicals-5B	3	10	40	50	1
	Part – 2 SEC	BTNSECT5.3	Industrial Fermentations	3	10	40	50	2
		Total: Hours / Credits		17			350	10

Note: Students have to choose either Elective-I or Elective-II

VI	Part – 1 DSE	BTNDSET 6.1	Industrial and Environmental Biotechnology	4	20	80	100	3
		BTNDSEP 6.1	Practicals-6	3	10	40	50	1
		BTNDSET 6.2A (Elective III)	Agricultural and medical Biotechnology	4	20	80	100	3
		BTNDSEP 6.2A (Elective III)	Practicals-6A	3	10	40	50	1
		BTNDSET 6.2B (Elective IV)	Medical Microbiology	4	20	80	100	3
		BTNDSEP 6.2B (Elective IV)	Practicals 6B	3	10	40	50	1
	Part – 2 SEC	BTNSECT 6.3	Basics of Forensic Science	3	10	40	50	2
		Total: Hours / Credits		17			350	10

Note: Students have to choose either Elective-III or Elective-IV

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities. AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course).

Note: Duration of examinations is 03 h for 80 Marks theory and 02 h for 40 marks theory. For practicals, duration of examination is 03 h.

14. BOTANY

B.Sc., BOTANY Syllabus under CBCS scheme (With effect from the academic year 2020-21 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1 DSC	BOTDSCT1.1	Biodiversity (Microbes, Algae, Fungi and Archegoniate)	4	20	80	100	3
		BOTDSCP1.1	Practical I	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1 DSC	BOTDSCT2.1	Plant Ecology and Diversity of angiosperms	4	20	80	100	3
		BOTDSCP2.1	Practical II	3	10	40	50	1
		Total : Hours / Credits		7			150	4

B.Sc., BOTANY Syllabus under CBCS scheme (With effect from the academic year 2021-22 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	BOTDSCT3.1	Plant Anatomy and Embryology	4	20	80	100	3
		BOTDSCP3.1	Practical III	3	10	40	50	1
	Part – 2 SEC	BOTSECT3.2	Herbal technology	2	10	40	50	2
		Total : Hours / Credits		9			200	6
IV	Part – 1 DSC	BOTDSCT4.1	Plant Physiology and Biochemistry	4	20	80	100	3
		BOTDSCP4.1	Practical IV	3	10	40	50	1
	Part – 2 SEC	BOTSECT4.2	Nursery and Gardening	2	10	40	50	2
		Total : Hours / Credits		9			200	6

**B.Sc., BOTANY Syllabus under CBCS scheme
(With effect from the academic year 2022-23 onwards)**

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	BOTDSET5.1	Economic Botany and Biotechnology	4	20	80	100	3
		BOTDSEP5.1	Practical V	3	10	40	50	1
		BOTDSET5.2A (Elective I)	Cell and Molecular Biology	4	20	80	100	3
		BOTDSEP5.2A (Elective I)	Practical VIA	3	10	40	50	1
		BOTDSET5.2B (Elective II)	Genetics, Plant Breeding and Evolution	4	20	80	100	3
		BOTDSEP5.2B (Elective II)	Practical VIB	3	10	40	50	1
	Part – 2 SEC	BOTSECT5.3	Medicinal Botany	2	10	40	50	2
		Total : Hours / Credits		16			350	10

Note: Students have to choose either Elective-I or Elective-II

VI	Part – 1 DSE	BOTDSET6.1	Analytical Techniques in Plants.	4	20	80	100	3
		BOTDSEP6.1	Practical VII	3	10	40	50	1
		BOTDSET6.2A (Elective III)	Research Methodology	4	20	80	100	3
		BOTDSEP6.2A (Elective III)	Practical VIIIA	3	10	40	50	1
		BOTDSET6.2B (Elective IV)	Biofertilizers and Organic Farming	4	20	80	100	3
		BOTDSEP6.2B (Elective IV)	Practical VIIIB	3	10	40	50	1
	Part – 2 SEC	BOTSECT6.3	Ethnobotany	2	10	40	50	2
		Total : Hours / Credits		16			350	10

Note: Students have to choose either Elective-III or Elective-IV

15. MATHEMATICS

B.Sc.: Mathematics as one of the optional subject revised syllabus under CBCS (w.e.f. 2020-21 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1 DSC	MATDSCT 1.1	Algebra–I and Calculus–I	4	20	80	100	3
		MATDSCP 1.1	Practicals-I	3	10	40	50	1
		Total : Hours / Credits			7			150
II	Part – 1 DSC	MATDSCT 2.1	Calculus–II and 3-Dimensional Geometry	4	20	80	100	3
		MATDSCP 2.1	Practicals-II	3	10	40	50	1
		Total : Hours / Credits			7			150

B.Sc.: Mathematics as one of the optional subject revised syllabus under CBCS (w.e.f. 2021-22 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	MATDSCT3.1	Algebra-II, Real analysis and Differential Equations	4	20	80	100	3
		MATDSCP 3.1	Practicals-III	3	10	40	50	1
	Part – 2 SEC	MATSECT 3.2	Set Theory and Theory of Equations	2	10	40	50	2
		Total : Hours / Credits			9			200
IV	Part – 1 DSC	MATDSCT 4.1	Vector Calculus, Infinite Series and Deferencial Equations	4	20	80	100	3
		MATDSCP 4.1	Practicals-IV	3	10	40	50	1
	Part – 2 SEC	MATSECT 4.2	Fourier Transforms	2	10	40	50	2

**B.Sc.: Mathematics as one of the optional subject revised syllabus under CBCS
(w.e.f. 2022-23 and onwards)**

Sem	Part	Paper	Title of Paper	Hours/	Marks			Subject Credits	
		Code		Week	IA	Exam	Total		
V	Part – 1 DSE	MATDSET 5.1	Real Analysis	4	20	80	100	3	
		MATDSEP 5.1	Practicals-V	3	10	40	50	1	
		MATDSET 5.2A (Elective-I)	Numerical Analysis and Difference Equations	4	20	80	100	3	
		MATDSEP 5.2A (Elective-I)	Practicals	3	10	40	50	1	
		MATDSET5.2B (Elective-II)	Dynamics and Calculus of Variation	4	20	80	100	3	
		MATDSEP 5.2B (Elective-II)	Practicals	3	10	40	50	1	
	Part – 2 SEC	MATSECT 5.3	Number theory	2	10	40	50	2	
		Total : Hours / Credits			16			350	10

Note: Students have to choose either Elective-I or Elective-II

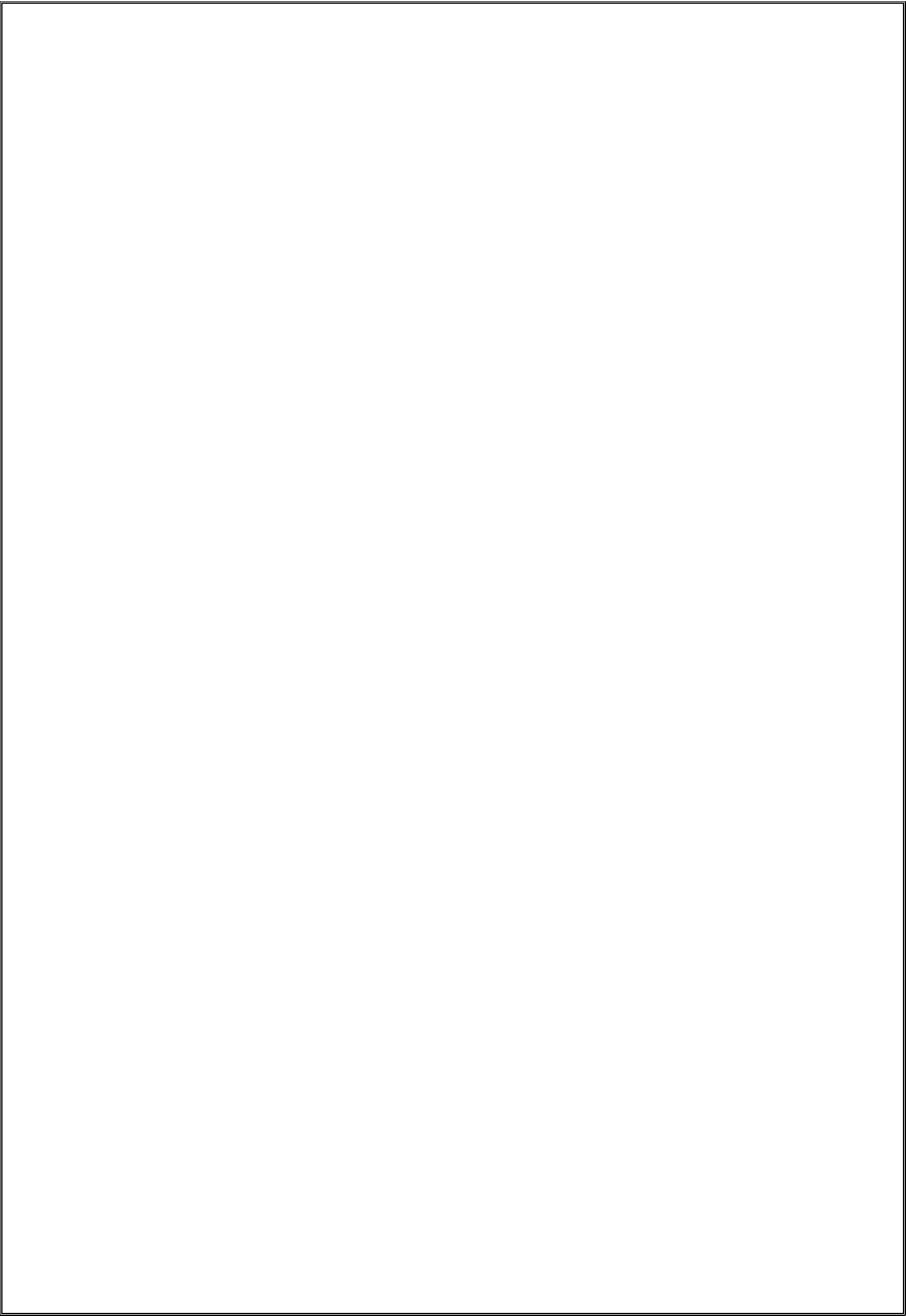
VI	Part – 1 DSE	MATDSET 6.1	Complex Analysis and Ring Theory	4	20	80	100	3	
		MATDSEP 6.1	Practicals	3	10	40	50	1	
		MATDSET 6.2A (Elective-III)	Differential Equations	4	20	80	100	3	
		MATDSEP 6.2A (Elective-III)	Practicals	3	10	40	50	1	
		MATDSET6.2B (Elective-IV)	Topology and Laplace Transforms	4	20	80	100	3	
		MATDSEP 6.2B (Elective-IV)	Practicals	3	10	40	50	1	
	Part – 2 SEC	MATSECT 6.3	Graph Theory	2	10	40	50	2	
		Total : Hours / Credits			17			350	10

Note: Students have to choose either Elective-III or Elective-IV

16. COMPUTER SCIENCE

BSc.: Computer Science as one of the optional subject revised syllabus as per CBCS (w.e.f. 2020-21 onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1	CPSDSCT1.1	Digital Logic & Comp. Design	4	20	80	100	3
	DSC	CPSDSCP1.1	Digital Logic & Comp. Design – Lab	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1	CPSDSCT2.1	Programming in C	4	20	80	100	3
	DSC	CPSDSCP2.1	Programming in C - Lab	3	10	40	50	1
		Total : Hours / Credits		7			150	4

BSc.: Computer Science as one of the optional subject revised syllabus as per CBCS (w.e.f. 2021-22 onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	CPSDSCT3.1	Data-Structures using C	4	20	80	100	3
		CPSDSCP3.1	Data-Structures using C – Lab	3	10	40	50	1
	Part – 2 SEC	CPSSECP3.2	Internet and e-Resources	2	10	40	50	2
		Total : Hours / Credits		9			200	6
IV	Part – 1 DSC	CPSDSCT4.1	Operating System	4	20	80	100	3
		CPSDSCP4.1	Operating System using Unix Lab	3	10	40	50	1
	Part – 2 SEC	CPSSECP4.2	Multimedia Technology	2	10	40	50	2
		Total : Hours / Credits		9			200	6



**BSc.: Computer Science as one of the optional subject revised syllabus as per CBCS
(w.e.f. 2022-23 onwards)**

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	CPSDSET5.1	Computer Networks	4	20	80	100	3
		CPSDSEP5.1	Computer Networks Lab	3	10	40	50	1
		CPSDSET5.2A	Elective-1 RDBMS	4	20	80	100	3
		CPSDSEP5.2A	Elective-1 RDBMS Lab	3	10	40	50	1
		CPSDSET5.2B	Elective-II Java Programming	4	20	80	100	3
		CPSDSEP5.2B	Elective-II Java Programming Lab	3	10	40	50	1
	Part – 2 SEC	CPSSECT5.3	Fundamental of e-Governance	2	10	40	50	2
		Total : Hours / Credits		17			350	10

Note: Students have to choose either Elective-I or Elective-II

VI	Part – 1 DSE	CPSDSET6.1	Web Technology	4	20	80	100	3
		CPSDSEP6.1	Web Technology Lab	3	10	40	50	1
		CPSDSET6.2A	Elective-III Python	4	20	80	100	3
		CPSDSEP6.2A	Elective-III Python Lab	3	10	40	50	1
		CPSDSET6.2B	Elective-IV PHP	4	20	80	100	3
		CPSDSEP6.2B	Elective-IV PHP-Lab	3	10	40	50	1
	Part – 2 SEC	CPSSECT6.3	Cyber Laws	2	10	40	50	2
		Total : Hours / Credits		17			350	10

Note: Students have to choose either Elective-III or Elective-IV

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities)

17. ZOOLOGY

(With effect from the academic year 2020-21 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hour s/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1	ZOODSCT 1.1	Animal discovery	4	20	80	100	3
	DSC	ZOODSCP 1.1	Practicals-1	3	10	40	50	1
		Total: Hours / Credits			7			150
II	Part – 1 DSC	ZOODSCT 2.1	Comparative anatomy and development biology of vertebrates	4	20	80	100	3
		ZOODSCP 2.1	Practicals-2	3	10	40	50	1
		Total: Hours / Credits			7			150

(With effect from the academic year 2021-22 onwards)								
Sem	Part	Paper Code	Title of the Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1	ZOODSCT3.1	Physiology, Biochemistry and history	4	20	80	100	3
	DSC	ZOODSCP3.1	Practicals-3	3	10	40	50	1
	Part – 2 SEC	ZOOSECT3.2	Medical diagnostics	2	10	40	50	2
		Total: Hours / Credits			9			200
IV	Part – 1	ZOODSCT4.1	Genetics and evolutionary biology	4	20	80	100	3
	DSC	ZOODSCP4.1	Practicals-4	3	10	40	50	1
	Part – 2 SEC	ZOOSECT4.2	Aquarium fish keeping	2	10	40	50	2
		Total: Hours / Credits			9			200

(With effect from the academic year 2022-23 onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	ZOODSET 5.1	Applied zoology and Ethology	4	20	80	100	3
		ZOODSEP 5.1	Practicals-5	3	10	40	50	1
		ZOODSET 5.2A (Elective I)	Cell biology, Biotechnology, Biostatistics and research methodology	4	20	80	100	3
		ZOODSEP 5.2A (Elective I)	Practicals-5A	3	10	40	50	1
		ZOODSET 5.2B (Elective II)	Immunology	4	20	80	100	3
		ZOODSEP 5.2B (Elective II)	Practicals-5B	3	10	40	50	1
	Part – 2 SEC	ZOOSCT5.3	Apiculture	3	10	40	50	2
		Total: Hours / Credits			17			350
Note: Students have to choose either Elective-I or Elective-II								
VI	Part – 1 DSE	ZOODSET 6.1	Reproductive biology	4	20	80	100	3
		ZOODSEP 6.1	Practicals-6	3	10	40	50	1
		ZOODSET 6.2A (Elective III)	Ecology, Zoogeography and wildlife conservation.	4	20	80	100	3
		ZOODSEP 6.2A (Elective III)	Practicals-6A	3	10	40	50	1
		ZOODSET 6.2B (Elective IV)	Insects, Vectors and Diseases	4	20	80	100	3
		ZOODSEP 6.2B (Elective IV)	Practicals-6B	3	10	40	50	1
	Part – 2 SEC	ZOOSCT 6.3	Apiculture	3	10	40	50	2
		Total: Hours / Credits			17			350
Note: Students have to choose either Elective-III or Elective-IV								

T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities, AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course. DSE: Discipline Specific Elective, SEC: Skill Enhancement Course).

Note: Duration of examinations is 03 h for 80 Marks theory and 02 h for 40 marks theory. For practicals, duration of examination is 03 h

18. GEOLOGY

19. B.Sc.: Geology as one of the optional subject revised syllabus under CBCS 20. (w.e.f. 2020-21 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1 DSC	GEODSCT 1.1	Dynamic Geology, Geomorphology & Field Geology	4	20	80	100	3
		GEODSCP 1.1	Practicals-I	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1 DSC	GEODSCT 2.1	Optical Mineralogy Crystallography & Mineralogy	4	20	80	100	3
		GEODSCP 2.1	Practicals-II	3	10	40	50	1
		Total : Hours / Credits		7			150	4

B.Sc.: Statistics as one of the optional subject revised syllabus under CBCS (w.e.f. 2021-22 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1 DSC	GEODSCT3.1	Petrology: Igneous Sedimentary & Metamorphic	4	20	80	100	3
		GEODSCP 3.1	Practicals-III	3	10	40	50	1
	Part – 2 SEC	GEOSECT 3.2	Energy Resources	2	10	40	50	2
		Total : Hours / Credits		9			200	6
IV	Part – 1 DSC	GEODSCT 4.1	Palaeontology, Principles of Stratigraphy & Indian Stratigraphy	4	20	80	100	3
		GEODSCP 4.1	Practicals-IV	3	10	40	50	1
	Part – 2 SEC	GEOSECT 4.2	Fundamentals of Remote Sensing	2	10	40	50	2
		Total : Hours / Credits		9			200	6

**B.Sc.: Geology as one of the optional subject revised syllabus under CBCS
(w.e.f. 2022-23 and onwards)**

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	GEODSET 5.1	Structural Geology and Surveying	4	20	80	100	3
		GEODSEP 5.1	Practicals-V	3	10	40	50	1
		GEODSET 5.2A (Elective-I)	Ore Processes, Indian Mineral Deposits and Exploration Geology	4	20	80	100	3
		GEODSEP 5.2A (Elective-I)	Practicals	3	10	40	50	1
		GEODSET5.2B (Elective-II)	Marine Geology	4	20	80	100	3
		GEODSEP 5.2B (Elective-II)	Practicals	3	10	40	50	1
	Part – 2 SEC	GEOSECT 5.3	Gemology	2	10	40	50	2
		Total : Hours / Credits		16			350	10

Note: Students have to choose either Elective-I or Elective-II

VI	Part – 1 DSE	GEODSET 6.1	Hydrogeology & Geochemistry	4	20	80	100	3
		GEODSEP 6.1	Practicals	3	10	40	50	1
		GEODSET 6.2A (Elective-III)	Remote Sensing & GIS	4	20	80	100	3
		GEODSEP 6.2A (Elective-III)	Practicals	3	10	40	50	1
		GEODSET6.2B (Elective-IV)	Environmental Geology & Engineering Geology	4	20	80	100	3
		GEODSEP 6.2B (Elective-IV)	Practicals	3	10	40	50	1
	Part – 2 SEC	GEOSECT 6.3	Mining Geology	2	10	40	50	2
		Total : Hours / Credits		17			350	10

Note: Students have to choose either Elective-III or Elective-IV

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course

DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)

Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.

19. STATISTICS

CHOICE BASED CREDIT SYSTEM [CBCS]

B.Sc. Program with Statistics Optional Subject

B.Sc.: Statistics as one of the optional subject revised syllabus under CBCS (w.e.f. 2020-21 and onwards)								
Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
I	Part – 1	STSDSCT 1.1	Descriptive Statistics	4	20	80	100	3
	DSC	STSDSCP 1.1	Practicals-I	3	10	40	50	1
		Total : Hours / Credits		7			150	4
II	Part – 1	STSDSCT 2.1	Bivariate Data Analysis and Standard Theoretic Distributions	4	20	80	100	3
	DSC	STSDSCP 2.1	Practicals-II	3	10	40	50	1
		Total : Hours / Credits		7			150	4

**B.Sc.: Statistics as one of the optional subject revised syllabus under CBCS
(w.e.f. 2021-22 and onwards)**

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
III	Part – 1	STSDSCT3.1	Sampling Distributions	4	20	80	100	3
	DSC	STSDSCP 3.1	Practicals-III	3	10	40	50	1
	Part – 2	STSSECT 3.2	Statistical Methods - I	2	10	40	50	2
	SEC							
		Total : Hours / Credits		9			200	6
IV	Part – 1	STSDSCT 4.1	Statistical Inference	4	20	80	100	3
	DSC	STSDSCP 4.1	Practicals-IV	3	10	40	50	1
	Part – 2	STSSECT 4.2	Statistical Methods - II	2	10	40	50	2
	SEC							
		Total : Hours / Credits		9			200	6

**B.Sc.: Statistics as one of the optional subject revised syllabus under CBCS
(w.e.f. 2022-23 and onwards)**

Sem	Part	Paper Code	Title of Paper	Hours/ Week	Marks			Subject Credits
					IA	Exam	Total	
V	Part – 1 DSE	STSDSET 5.1	Inference and Statistical Quality Control	4	20	80	100	3
		STSDSEP 5.1	Practicals-V	3	10	40	50	1
		STSDSET 5.2A (Elective-I)	(i) Sampling Theory and Demography	4	20	80	100	3
		STSDSEP 5.2A (Elective-I)	Practicals	3	10	40	50	1
		STSDSET5.2B (Elective-II)	(i) Econometrics	4	20	80	100	3
		STSDSEP 5.2B (Elective-II)	Practicals	3	10	40	50	1
	Part – 2 SEC	STSSECT 5.3	Demography	2	10	40	50	2
		Total : Hours / Credits		16			350	10

Note: Students have to choose either Elective-I or Elective-II

VI	Part – 1 DSE	STSDSET 6.1	Design of Experiments	4	20	80	100	3
		STSDSEP 6.1	Practicals	3	10	40	50	1
		STSDSET 6.2A (Elective-III)	(i) Operations Research-I	4	20	80	100	3
		STSDSEP 6.2A (Elective-III)	Practicals	3	10	40	50	1
		STSDSET6.2B (Elective-IV)	(ii) Operations Research-II	4	20	80	100	3
		STSDSEP 6.2B (Elective-IV)	Practicals	3	10	40	50	1
	Part – 2 SEC	STSSECT 6.3	Operation Research Techniques	2	10	40	50	2
		Total : Hours / Credits		17			350	10

Note: Students have to choose either Elective-III or Elective-IV

(T: Theory, P: Practical, CC/EA: Co-curricular/Extension Activities

AECC: Ability Enhancement Compulsory Course, DSC: Discipline Specific Course

DSE: Discipline Specific Elective, SEC: Skill Enhancement Course)

Note: Duration of examinations is 03 Hrs for 80 Marks theory and 02 hrs for 40 marks theory. For practical's duration of examination is 03 Hrs.