### CHOICE BASED CREDIT SYSTEM COURSE PATTERN AND SCHEME OF EXAMINATION

#### CORE SUBJECT: MATHEMATICS

		Denticulana	Instruction	Duration		Marks	3			
		Particulars	Hours/Week	of Exams	IA	Exam	Total	Credits		
I Semes	ter B.Sc.		,	1	1	1				
Group I Core	Theory BSCMTC131	Course I	4	3	20	80	100	2		
Subject	Practical BSCMTP132	Lab I	3	3	10	40	50	1		
Group II Core	Theory BSCMTCE133	Course A	2	2	10	40	50	1*		
Elective										
		Tot	al number of C	Credits for C	ore S	ubject i	n I Sem	ester: 04		
II Seme	ster B.Sc.									
Group I Core	Theory BSCMTC181	Course II	4	3	20	80	100	2		
Subject	Practical BSCMTP182	Lab II	3	3	10	40	50	1		
Group II Core Elective	Theory BSCMTCE183	Course B	2	2	10	40	50	1*		
Total number of Credits for Core Subject in II Semester: 04										
III Sem	ester B.Sc.									
Group I Core	Theory BSCMTC231	Course III	4	3	20	80	100	2		
Subject	Practical BSCMTP232	Lab III	3	3	10	40	50	1		
Group II Core	Theory BSCMTCE233	Course C	2	2	10	40	50	1*		
Elective										
		Total	number of Cre	edits for Con	e Su	bject in	III Sem	ester: 04		
IV Semester B.Sc.										
Group I Core	Theory BSCMTC281	Course IV	4	3	20	80	100	2		
Subject	Practical BSCMTP282	Lab IV	3	3	10	40	50	1		
Group II Open	Theory BSCMTOE283	Course D	2	2	10	40	50	1*		
Elective										
TLO		Total	number of Cre	edits for Co	re Su	bject in	IV Sem	ester: 04		
V Seme	ster B.Sc.	O V	2	0	- 20	00	100	0		
Group I Core	Theory BSCMTC331	Course V	3	3	20	80	100	2		
Subject	Theory BSCMTC332	$\operatorname{Course VI}(a)/$	3	3	20	80	100	2		
	BSCMTC333	Course VI(b)	4	0	10	10	50	2		
	Practical BSCMTP334	Lab V	4	3	10	40	50	2		
		Tota	al number of Ci	redits for Co	ore Sı	ıbject in	V Sem	ester: 06		
VI Seme	ester B.Sc.	Course VII	0	ი	00	00	100	0		
Core	BSCMTC381	Course VII	3	3	20	80	100	2		
Subject	Theory PSCMTC282		3	3	20	80	100	2		
	BSCMTC382 BSCMTC383	Course VIII(a) Course VIII(b)	/							
	BSCMTC384	Course VIII(c)								
	Practical BSCMTP385	Lab VI	4	3	10	40	50	2		
		Total	number of Cre	edits for Con	re Su	bject in	VI Sem	ester: 06		
		Total n	umber of Credi	ts for Core	Subje	ect in I-V	/I Seme	sters: 28		

 Total number of Credits for Core Subject in I-VI Semesters: 28

 \*Credits for Elective Courses will be considered for the entire B.Sc. Programme

## Scheme and Syllabus for B.Sc. (Biotechnology) - 2018

	SEMESTER - I										
Group	Course	Title of Courses	Instruction	Duration		Marks		Credits			
	Code		nrs/week	(hrs)	IA*	Exam	Total				
	BSCBTV	Biochemistry and	4	3	20	80	100	2			
Group I	131	Biophysics									
Core	BSCBTP	Biochemistry and	3	3	10	40	50	1			
Courses	132	<b>Biophysics Practical</b>									
Group II	BSCBTCE	Food Technology									
Elective	133		2	2	10	40	50	1			
Courses											
a) Supportive											
to the											
discipline											
of the study											

## CHOICE BASED CREDIT SYSTEM

	SEMESTER - II										
Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam (hrs)	Marks		Credits				
					IA*	Exa	Total				
						m					
	BSCBTV	Cell Biology and	4	3	20	80	100	2			
Group I	181	Genetics									
Core	BSCBTP	Cell Biology and	3	3	10	40	50	1			
Courses	182	Genetics Practical									
Group II	BSCBTCE	Bioprocess Technology									
Elective	183		2	2	10	40	50	1			
Courses											
b) Providing											
an expanded											
scope											

	SEMESTER - III										
Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam		Marks		Credits			
				(hrs)	IA*	Exam	Total				
Group I	BSCBTV 231	Microbiology and Immunology	4	3	20	80	100	2			
Core Courses	Core CoursesBSCBTP 232Microbiology and Immunology Practical3310	40	50	1							
Group II Elective Courses c) Nurturing students proficiency/skill	BSCBTCE 233	Advanced Biotechniques	2	2	10	40	50	1			
Group II Elective Courses c) Nurturing students proficiency/skill	BSCBTCE 232 BSCBTCE 233	Immunology Practical Advanced Biotechniques	2	2	10	40	50				

		SEMEST	TER - IV					
Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam		Marks		Credits
				(hrs)	IA*	Exam	Total	
	BSCBTV	Molecular Biology and	4	3	20	80	100	2
Group I	281	Recombinant						
Core Courses		Technology						
	BSCBTP	Molecular Biology and	3	3	10	40	50	1
	282	Recombinant						
		Technology Practical						
Group II	BSCBTOE	Biotechnology in Daily						
Elective Courses	283	Life	2	2	10	40	50	1
d) Enabling an								
exposure to								
some other								
domain								

	SEMESTER - V										
Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam			Credits				
				(hrs)	IA*	Exam	Total				
	BSCBTV 331	Plant Biotechnology	3	3	20	80	100	2			
Group I Core	BSCBTV 332	Animal Biotechnology	3	3	20	80	100	2			
Courses	BSCBTP 333	Plant Biotechnology Practical	2	3	10	40	50	1			
	BSCBTP 334	Animal Biotechnology Practical	2	3	10	40	50	1			

	SEMESTER - VI										
Group	Course Code	Title of Courses	Instruction hrs/week	uction Duration week of Exam			Credits				
				(hrs)	IA*	Exam	Total				
	BSCBTV	Environmental	3	3	20	80	100	2			
	381	Biotechnology									
C I	BSCBTV	Biostatistics and	3	3	20	80	100	2			
Group I	382	Bioinformatics									
Courses	BSCBTP	Environmental	2	3	10	40	50	1			
Courses	383	Biotechnology,									
		Biostatistics and									
		<b>Bioinformatics</b> Practical									
	BSCBTP 384	Project	2	3	10**	40	50	1			

\*Based on internal test or tests

\*\*Continuous assessment during project

## **COURSES AND CREDITS B.Sc. with Botany as an Optional Subject**

		Taashina	Exam		Marks	5	No. of
	Semester-wise Course Topics	hrs/ week	duration (Hrs)	I.A	Exam	Total	No. of Credits
SEMEST	TER - I						
Group I	BSCBOC 131 Microbes and Algae (T)	4	3	20	80	100	02
	BSCBOP 132 Microbes and Algae(P)	3	3	10	40	50	01
Group II	BSCBOCE 133 Elective Course:	2	2	10	40	50	01
SEMEST	TER - II						
Group I	BSCBOC 181 Fungi, Bryophytes, Histology and Anatomy( <b>T</b> )	4	3	20	80	100	02
	BSCBOP 182 Fungi, Bryophytes, Histology and Anatomy ( <b>P</b> )	3	3	10	40	50	01
Group II	BSCBOCE 183 Elective Course:	2	2	10	40	50	01
SEMEST	TER - III						
Group I	BSCBOC 231 Pteridophytes, Gymnosperms and Angiosperm embryology( <b>T</b> )	4	3	20	80	100	02
	BSCBOP 232 Pteridophytes, Gymnosperms and Angiosperm embryology( <b>P</b> )	3	3	10	40	50	01
Group II	BSCBOCE 233 Elective Course:	2	2	10	40	50	01
SEMEST	TER - IV				1		
Group I	BSCBOC 281Taxonomy and Economic Botany ( <b>T</b> )	4	3	20	80	100	02
	BSCBOP 282 Taxonomy and Economic Botany ( <b>P</b> )	3	3	10	40	50	01
Group II	BSCBOOE 283 Open Elective Course:	2	2	10	40	50	01
SEMEST	TER - V						
	BSCBOC 331 Ecology and Environmental Biology ( <b>T1</b> )	3	3	20	80	100	02
G . I	BSCBOC 332Plant Physiology (T2)	3	3	20	80	100	02
Group I	BSCBOP 333 Ecology and Environmental Biology ( <b>P1</b> )	2	2	10	40	50	01
	BSCBOP 334 Plant Physiology (P2)	2	2	10	40	50	01
SEMEST	TER - VI						
	BSCBOC 381Cytology, Molecular Biology and Genetics( <b>T1</b> )	3	3	20	80	100	02
Course I	BSCBOC 382 Plant Propagation and Plant Biotechnology ( <b>T2</b> )	3	3	20	80	100	02
Group I	BSCBOP 383 Cytology, Molecular Biology and Genetics ( <b>P1</b> )	4	4	10	40	50	01
	BSCBOP 384 Plant Propagation and Biotechnology ( <b>P2</b> )	4	4	10	40	50	01
	T= Theory, P=Practicals					Total Credits	28

## MANGALORE UNIVERSITY CHOICE BASED CREDIT SYSTEM STATISTICS

#### SCHEME

	Course		Instructi on	Duration of the	М	Max. Marks		~ .	
	Code	Particulars	hours/ week	exam (hrs)	IA	Exam	Total	Credits	
		I SE	MESTE	R					
Group I Core	BSCSTC 131	Descriptive Statistics	4	3	20	80	100	2	
Subject	BSCSTP 132	Statistics Practical - I	3	3	10	40	50	1	
Group II Elective	BSCSTCE 133	Official Statistics	2	2	10	40	50	1	
			Total	number of Cre	edits for C	ore Subje	ect in I Se	emester: 04	
		II SI	EMESTE	R					
Group I Core	BSCSTC 181	Probability Theory	4	3	20	80	100	2	
Subject	BSCSTP- 182	Statistics Practical - II	3	3	10	40	50	1	
Group II Elective	BSCSTC E 183	Statistical Analysis of Experimental Data.	2	2	10	40	50	1	
Total number of Credits for Core Subject in II Semester: 04									
		III S	EMESTI	ER					
Group I Core	BSCSTC 231	Sampling Theory	4	3	20	80	100	2	
Subject	BSCSTP 232	Statistics Practical - III	3	3	10	40	50	1	
Group II Elective	BSCSTCE 233	Introduction to Data Science and Big Data Analytics.	2	2	10	40	50	1	
			Total nu	umber of Cred	its for Co	re Subjec	t in III Se	emester: 04	
		IV S	EMESTI	ER					
Group I Core	BSCSTC 281	Statistical Inference – I	4	3	20	80	100	2	
Subject	BSCSTP- 282	Statistics Practical - IV	3	3	10	40	50	1	
Group II Elective	BSCSTOE 283	Basic Statistics	2	2	10	40	50	1	
			Total nu	umber of Cred	its for Co	re Subjec	t in IV Se	emester: 04	

	Course		Instructi on	Duration of the	Μ	[ax. Mar]	ks	Credits	
	Code	Particulars	hours/ week	exam (hrs)	IA	Exam	Total	Credits	
		V SE	MESTE	R					
Crown I	BSCSTC 331	Regression Analysis	3	3	20	80	100	2	
Group I Core Subject	BSCSTC 332	Operations Research	3	3	20	80	100	2	
Subject	BSCSTP 333	Practical based on BSCSTC 331 & BSCSTC 332	CSTC 4 3 20 80 100 Total number of Credits for Core Subject in V Se	100	2				
Total number of Credits for Core Subject in V Semester: 06									
		VI SE	MESTE	R					
Group I	BSCSTC 381	Statistical Inference II & Design and Analysis of experiments	3	3	20	80	100	2	
Subject	BSCSTC 382	Applied Statistics	3	3	20	80	100	2	
	BSCSTP 383	Practical based on BSCSTC 381 & BSCSTC 382	4	3	20	80	100	2	
Total number of Credits for Core Subject in VI Semester: 06									
Total number of Credits for Core Subject in I-VI Semesters: 28									

## Mangalore University Choice Based Credit System Course pattern & scheme of Examination Core Subject: **Biochemistry**

Core/Elective	Course Code	Title of the Course	Instruc tion hours/ week	Duration of the examination (hours)	Max.	Max. marks		Cred its	
					Exa				
					m	A			
I Semester BSc	• •								
Group I Core	Theory BSCBCC 131	Bioinorganic &	4	3	80	20	100	2	
subjects		Biophysical Chemistry							
	Practical BSCBCP 132	Biochemistry Practical-I	3	3	40	10	50	1	
Group II Elective	Core Elective BSCBCCE 133	Cell Biology	2	2	40	10	50	1*	
Total number of credits for core subjects in I Semester=03									

Core/Elective	Course code	Title of the Course	Instruction hours/week	Duratio n of the examin ation (hours)	Max. marks			Credits	
					Ex am	I A			
II Semester BS	II Semester BSc								
Group I Core subjects	Theory BSCBCC 181	Bioorganic Chemistry-I	4	3	80	20	100	2	
	Practical BSCBCP 182	Biochemistry Practical-II	3	3	40	10	50	1	
Group II Elective	Core Elective BSCBCCE 183	Cell Cycle & Genetics	2	2	40	10	50	1*	
Total number of credits for core subjects in II Semester=03									

Core/Elective	Course code	Title of the	Instruct	Duration of	Max. n	narks		Credits			
		Course	ion	the							
			hours/	examination							
			week	(hours)		-					
					Exam	IA	Total				
III Semester BSc											
Group I Core	Theory	Bio-organic	4	3	80	80 20 100					
subjects	BSCBCC 231	Chemistry II									
	Practical	Biochemistry	3	3	40	10	50	1			
	BSCBCP 232	Practical-III									
Group II	Core Elective	Food-	2	2	40	10	50	1*			
Elective	BSCBCOE 233	Environmental									
		Chemistry &									
Hematology											
	Total number of credits for core subjects in III Semester=03										

Core/Elective	Course code	Title of the Course	Instruction hours/week	Duration of the	Max. n	Max. marks		Credits		
				(hours)						
		I	1		Exam	Total				
IV Semester E	BSc									
Group I Core	Theory	Biomolecules	4	3	80	20	100	2		
subjects	BSCBCC	&								
	281	Biochemical								
		Techniques								
	Practical	Biochemistry	3	3	40	10	50	1		
	BSCBCP 282	Practical-IV								
Group II	Core	Analytical	2	2	40	10	50	1*		
Elective	Elective	Techniques								
	BSCBCCE									
283										
	Total number of credits for core subjects in IV Semester=03									

Core/Elective	Course	Title of the	Instruction	Duration of	Max. n	narks		Credits
	code	Course	hours/week	the				
				examination				
				(hours)				
Exam IA Total								
V Semester BSc								
	Theory	Enzymology	4	3	80	20	100	2
	BSCBCC	&						
	331	Metabolism						
Group I Core	Theory	Molecular	4	3	80	20	100	2
subjects	BSCBCC	Biology &						
_	332	Genetic						
		Engineering						
	Practical	Biochemistry	4	3	80	20	100	2
	BSCBCP	Practical -V						
	333							
Total number of credits for core subjects in V Semester=06								

Core/Elective	Course	Title of the	Instruction	Duration of	Max. n	narks		Credits		
	code	Course	nours/week	examination						
				(hours)						
					Exam	IA	Total			
VI Semester BSc										
	Theory	Human	4	3	80	20	100	2		
	BSCBCC 381	Physiology								
		& Clinical								
Group I Core		Biochemistry								
subjects	Theory	Nutrition,	4	3	80	20	100	2		
	BSCBCC	Microbiology								
	382	&								
		Immunology								
	Practical	Biochemistry	4	3	80	20	100	2		
	BSCBCP	Practical -VI								
	383									
	Total number of credits for core subjects in VI Semester=06									

\*Credits for elective papers will be considered for the entire BSc program.

#### **B. Sc. CHOICE BASED CREDIT SYSTEM**

#### COURSE PATTERN AND SCHEME OF EXAMINATION

#### **CORE SUBJECT: PHYSICS**

Core/Ele	Course Code	Title	Instructi	<b>Duration</b>	Max. Marks		Credi	
cuve			hrs/week	Exam (hrs)	IA	Exam	Total	ts
I Semester								
Group I	BSCPHC131	General Physics I	4	3	20	80	100	2
Core Subject	BSCPHP 132	Physics Practicals I	3	3	10	40	50	1
Group II Elective	BSCPHCE 133	Basics of Radiation and Environment	2	2	10	40	50	1*
			Total nun	nber of Credit	s for Core	Subject	in I Sem	ester: 04
II Semeste	r							
Group I	BSCPHC 181	General Physics Paper II	4	3	20	80	100	2
Core Subject	BSCPHP 182	Physics Practicals II	3	3	10	40	50	1
Group II Elective	BSCPHCE 183	Physics of Nano Science and Smart materials	2	2	10	40	50	1*
		Total number of Credits for Core Subject in II Sen				ester: 04		
III Semest	er							
Group I	BSCPHC 231	Optics	4	3	20	80	100	2
Core Subject	BSCPHP 232	Physics Practicals III	3	3	10	40	50	1
Group II Elective	BSCPHCE 233	Electrical Appliances	2	2	10	40	50	1*
	·		Total numb	er of Credits	for Core S	Subject in	III Sem	ester: 04
IV Semest	er							
Group I Core	BSCPHC 281	Electricity &X-ray Crystallography	4	3	20	80	100	2
Subject	BSCPHP 282	Physics Practicals IV	3	3	10	40	50	1
Group II Elective	BSCPHOE 283	Basics of Communication and Astronomy	2	2	10	40	50	1*
			Total numb	er of Credits f	for Core S	ubject in	IV Sem	ester: 04
V Semester	r							
Group I	BSCPHC 331	Modern Physics	3	3	20	80	100	2
Core Subject	BSCPHP 333	Physics Practicals V	4	3	20	80	100	2
Group I Core Subject	BSCPHC 332	Condensed Matter Physics	3	3	20	80	100	2
			Total num	ber of Credits	for Core	Subject in	n V Sem	ester: 06
VI Semeste	er							
Group I Core	BSCPHC 381	Nuclear Physics	3	3	20	80	100	2

Subject	BSCPHP 383	Physics Practicals VI	4	3	20	80	100	2
Group I Core Subject	BSCPHC 382	Electronics	3	3	20	80	100	2
			Total numb	er of Credits f	for Core S	ubject in	VI Sei	mester: 06
Total number of Credits for Core Subject in I-VI Semesters: 2								nesters: 28

\* Credits for Elective Papers will be considered for the entire B.Sc. Programme.

Note: The theory IA will be based on the average of two internal tests. The practical IA will be based on regular performance and one model test.

#### **B.Sc. DEGREE**

#### CHOICE BASED CREDIT SYSTEM

#### COURSE PATTERN AND SCHEME OF EXAMINATION

#### **CORE SUBJECT: ZOOLOGY**

	Course Code	Particulars	Instruction Hours	Duration of the	Ma	ax. Ma	arks	Credits
				Examination (Hrs)	Exam	IA	Total	
I Semester B.Sc.				· · · · · · · · · · · · · · · · · · ·				
Group I Core Subject	Theory BSCZOC 131	Animal Diversity-I (Non chordata)	4	3	80	20	100	2
	Practical BSCZOP 132	Animal Diversity-I (Non chordata)	3	3	40	10	50	1
Group II Elective (Supportive to the discipline of study)	Theory BSCZOCE 133	Parasitology and Vector Biology	2	2	40	10	50	1*
			Total n	number of Credits	for Core	Subje	ct in I Se	emester: 03
II Semester B.Sc.								
Group I Core Subject	Theory BSCZOC 181	Animal Diversity - II (Chordata)	4	3	80	20	100	2
	Practical BSCZOP 182	Animal Diversity - II (Chordata)	3	3	40	10	50	1
Group II Elective (Providing an expanded scope)	Theory BSCZOCE 183	Instrumentation and Techniques in Biology	2	2	40	10	50	1*
		1	Total nu	umber of Credits	for Core	Subjec	t in II Se	mester: 03
III Semester B.Sc.								
Group I Core Subject	Theory BSCZOC 231	Physiology, Biochemistry and Immunology	4	3	80	20	100	2
	Practical BSCZOP 232	Physiology, Biochemistry and Immunology	3	3	40	10	50	1
Group II Elective (Nurturing students proficiency/ skill)	Theory BSCZOCE 233	Aquarium Fish Keeping	2	2	40	10	50	1*

			Total nu	mber of Credits	for Core	Subjec	t in III S	Semester: 03
IV Semester B.Sc.								
Group I Core Subject	Theory BSCZOC 281	Histology, Animal Behavior, Applied Zoology	4	3	80	20	100	2
	Practical BSCZOP 282	Histology, Animal Behavior, Applied Zoology	3	3	40	10	50	1
Group II Elective (Enabling an exposure to some other discipline/ domain)	Theory BSCZOOE 283	Vermitechnology	2	2	40	10	50	1*
			Total nu	mber of Credits f	for Core	Subjec	t in IV S	Semester: 03
V Semester B.Sc.								
Group I Core Subject	Theory BSCZOC 331	Cell Biology and Biotechnology	3	3	80	20	100	2
	Practical BSCZOP 333	Cell Biology and Biotechnology	2	3	40	10	50	1
Group I Core Subject	Theory BSCZOC 332	Genetics, Biostatistics, Evolution and Paleontology	3	3	80	20	100	2
	Practical BSCZOP 334	Genetics, Biostatistics, Evolution and Paleontology	2	3	40	10	50	1
	•		Total nu	umber of Credits	for Core	Subje	ct in V S	Semester: 06
VI Semester B.Sc.								
Group I Core Subject	Theory BSCZOC 381	Reproductive Biology and Developmental Biology	3	3	80	20	100	2
	Practical BSCZOP 383	Reproductive Biology and Developmental Biology	2	3	40	10	50	1
Group I Core Subject	Theory BSCZOC 382	Environmental Biology, Toxicology and Wildlife Biology	3	3	80	20	100	2
	Practical BSCZOP 384	Project work - Environmental Biology, Toxicology and Wildlife Biology	2	3	40	10	50	1
			Total nu	mber of Credits f	for Core	Subjec	t in VI S	Semester: 06
			Total numb	er of Credits for	Core Sul	bject ir	n I-VI Se	emesters: 24

\* Credits for Elective Papers will be considered for the entire B.Sc. Programme

#### CHOICE BASED CREDIT SYSTEM

#### COURSE PATTERN AND SCHEME OF EXAMINATION

## CORE SUBJECT: CHEMISTRY

Core/	Paner Code	Title of the Paper	Instructi	Duration of the	Max. Marks			Cre
Elective	Tuper coue	The of the Luper	on Hours	Examinati on(Hrs.)	Exam	IA	Total	dits
I Semeste	er B.Sc.		·					·
Group I	Theory BSCCHC131	Chemistry Paper I	4	3	80	2	0 100	2
Subject	Practical I BSCCHP132	Chemistry Practical I	3	3	40	1	0 50	1
Group II Elective	Theory BSCCHCE 133	Laboratory Reagents, Laboratory Safety and Domestic Chemicals	2	2	40	1	0 50	1*
			Total nu	mber of Credi	ts for Sul	oject i	n I Semes	ster:04
II Semest	er B.Sc.							
Group I Core	Theory BSCCHC181	Chemistry Paper II	4	3	80	2	0 100	2
Subject	Practical II BSCCHP182	Chemistry Practical II	3	3	40	1	0 50	1
Group II Elective	Theory BSCCHCE 183	Biomolecules And computer for chemists	2	2	40	1	0 50	1*
			Total nun	nber of Credit	s for Sub	ject ir	n II Semes	ster:04
III Semes	ter B.Sc.						_	
Group I	Theory BSCCHC231	Chemistry Paper III	4	3	80	2	0 100	2
Subject	Practical III BSCCHP232	Chemistry Practical III	3	3	40	1	0 50	1
Group II Elective	Theory BSCCHCE233	Chemistry and Environment	2	2	40	10	0 50	1*
			Total num	ber of Credits	for Subj	ect in	III Semes	ster:04
IV Semes	ter B.Sc.		•		•			-
Group I	Theory BSCCHC281	Chemistry Paper IV	4	3	80	2	0 100	2
Subject	Practical IV BSCCHP282	Chemistry Practical IV	3	3	40	1	0 50	1
Group II Elective	Theory BSCCHOE283	Chemistry in everyday life	2	2	40	1	0 50	1*
			Total num	ber of Credits	s for Subj	ect in	IV Semes	ster:04
V Semest	er B.Sc.							
Group	Theory BSCCHC331	Chemistry Paper V	3	3	80	2	0 100	2
I Core	Theory BSCCHC332	Chemistry Paper VI	3	3	80	2	0 100	2
Subject	Practical V BSCCHP333	Chemistry Practical V	4	4	80	2	0 100	2
			Total nun	nber of Credit	s for Sub	iect ii	ı V Semes	ster:06

VI Seme	ster B.Sc.								
Croup I	Theory BSCCHC381	Chemistry Paper VII	3	3	80	20	100	2	
Core	Theory BSCCHC382	Chemistry Paper VIII	3	3	80	20	100	2	
Subject	Practical VI BSCCHP383	Chemistry Practical VI	4	4	80	20	100	2	
Total number of Credits for Subject in I Semester to IV Semester:16									
Total number of Credits for Core Subject in I-VI Semesters:28									

\*Credits for Elective Papers will be considered for the entire B.Sc.

## BASIS FOR INTERNAL ASSESSMENT, PATTERN OF THEORY QUESTION PAPERS AND PRACTICAL EXAMINATION IN SCIENCE SUBJECTS

## **1.** Basis of Internal Assessment in Theory and Practical's

The internal assessment marks in theory papers shall be based on two tests. The tests shall be at least 1 hour duration each and to be conducted after 6 and 12 weeks after the start of a semester. The average of the two tests shall be taken as the internal assessment marks in theory papers.

The practical internal assessment marks shall be based on one test and continuous evaluation during the practicals. The practical test shall be conducted after 10 weeks after the start of a semester. The average of the test and continuous evaluation shall be taken as the internal assessment marks in practicals.

## 2. Theory Question Papers Pattern:

Theory Question Papers in Chemistry shall carry 80 marks. The syllabus of each paper is grouped into four (4) units of 13 teaching hours each in the first 4 semesters and 10 teaching hours each in the 5<sup>th</sup> and 6<sup>th</sup> semesters for all the science subjects with practical's. The Question Paper shall consist of Parts A and B, as detailed below.

**Part A:** Part A Shall contain 12 objective type questions/divisions (Q.No 1) drawn from all the 4 units of the syllabus (3 divisions per unit) carrying 2 marks each (a,b,c,d,e,f,g,h,i,j,k & l). 10 divisions are to be answered 10x2=20 marks.

**Part B:** Part B shall contain eight (8) brief and long answer questions (Q. Nos 2 to 9) carrying 15 marks each drawn from all the four units of the syllabus (2 questions per units). There shall be three divisions per question. The students are required to answer 4 full questions, choosing one full question from each unit. 4x15=60 marks.

#### 3. Question paper for Soft core/open elective papers:

The question paper shall carry 40 marks. The question paper shall consist of Part A and Part B as detailed below.

**Part A :** Part A shall contain6 objective type questions/divisions (Q.No.1) drawn 3 divisions from each Unit.( Unit-I and Unit-II) carrying 2 marks each(a,b,c,d,e,f). 5 division are to be answered.5x2=10 marks.

**Part B:** Part B shall contain four (4) brief and long answer questions (Q.No.2 to 5) carrying 15 marks each drawn from two units of the syllabus (2 questions per units). There shall be three divisions per question. The students are required to answer 2 full questions, choosing one full question from each unit.2x15=30 marks.

## B.Sc-Computer Science Degree Programme- Curriculum Structure and Scheme of Examinations

 $\begin{array}{ccc} $T$- Theory and $P$- Practical, $CC$- $Co-Curricular, $EC - Extra-Curricular$} \end{array}$ 

#### I / II/III/IV Semesters

		No.of	Instruction	Duration of		Marks			
Group 1	Courses	Courses L/P	Hours/Week	Exam(hrs)	IA	Exam	Total	Credits	
	2 Optional	$2\mathrm{T}$	2 x 4	2 x 3	2 x 20	$2 \ge 80$	2 x 100	2 x 2 =4	
	Courses	$2\mathrm{P}$	2 x 3	2 x 3	$2 \ge 20$	2 x 10	$2 \ge 50$	2 x1 =2	
I	1 Computer Science Course	<b>1</b> T	1 x 4	1 x 3	1 x 20	1 x 80	1 x 100	1 x 2 =2	
			1 x 3	1 x 3	1 x 10	1 x 40	1 x 50	1 x1 =1	
п	One course from 4 Electives	1 <b>T</b>	1 x 2	1 x 2	1 x 10	1 x 40	1 x 50	1*1 =1	
III	2 Languages	2L	2 x 4	2 x 3	2 x 20	2 x 80	2 x 100	2 x 2 =4	
	<b>Elective Foundation</b>	1T	1 x 2	1 x 2	1 x 10	1 x 40	1  x 50	1*1 =1	
IV	CC & EC	1T	1 x 2	1 x 2	1 x 50		1  x 50	1*1=1	
					Sei	Semester Credit Total			

#### V/VI Semester

Group	Courses					Marks			
		No.of Courses L/P	Instruction Hours/Week	Duration of Exam(hrs)	ΙΑ	Exam	Total	Credits	
	2 optional	Two Optiona	l with two Pract	cal					
	Courses	2*2T	2*(2 x 3)	2*(2 x 3)	2*(2 x 20)	2*(2 x 80)	2*(2 x 100)	2*(2 x 2) =8	
		2*2P	2*(2 x 2)	2*(2 x 3)	2*(2 x 10)	2*(2 x 40)	2*2 x 50)	2*(2 x 1) =4	
I									
	Computer	One Optiona	al with one Prac	tical					
	Course	2T	2 x 3	2 x 3	2 x 20	2 x 80	2 x 100	2 x 2 =4	
		1P	1 x 4	1 x 3	1 x 20	1 x 80	1 x 100	1 x 2 =2	
						Semes	ter Credit Total	18	

# **B.Sc Computer Science Degree Programme**- Curriculum Structure and Scheme of Examinations

#### **I SEMESTER**

	Course	Course	Instruction	Duration	Marks and Credits				
Group	Code	Course	Hours/Week	(Hours)	IA	Exam	Total	Credits	
т	BSCCSC131	Digital Fundamentals	4	3	20	80	100	2	
1	BSCCSP132	Digital and MS Office Lab	3	3	10	40	50	1	
II	BSCCSCE133 BSCCSCE134	E1:Computer Network and Security E2: Open Source Software	2	2	10	40	50	1	
		Total	9	8	40	160	200	4	

#### **II SEMESTER**

	Correct Colle	Course	Instructi on	Practic al	Duration of exams (Hours)	Marks and Credits				
Group	Course Code	Course	Hours/ Week	Hours/ Week		IA	Exam	Total	Credits	
	BSCCSC181	<b>Problem Solving</b>	4	_	3	20	80	100	2	
Ι		using C Language	•		5	20	00	100		
	BSCCSP 182	C programming Lab	3	3	3	10	40	50	1	
Π	BSCCSCE183 BSCCSCE184	E1: Cloud Computing E2: Data Mining with R	2	-	2	10	40	50	1	
		Total	9	3	8	40	160	200	4	

#### **III SEMESTER**

	Course	Course	Instru ction Practica Du		<b>Duration</b>	Marks and Credits				
Group	Code	Course	Hours/ Week	Week	(Hours)	IA	Exam	Total	Credits	
	BSCCSC231	Data Structures	4	-	3	20	80	100	2	
Ι	BSCCSP232	Data Structures Lab	3	3	3	10	40	50	1	
Π	BSCCSCE233 BSCCSCE234	E1: System Administration and Maintenance E1: Desktop Publishing	2	-	2	10	40	50	1	
		Total	9	3	8	40	160	200	4	

## **B.Sc Computer Science Degree Programme-** Curriculum Structure and Scheme of Examinations

## **IV SEMESTER**

	Course	Comme	Instruction	Duration of exams	Marks and Credits				
Group	Code	Course	Hours/Week	of exams (Hours)	IA	Exam	Total	Credits	
Ι	BSCCSC281	Operating Systems and LINUX	4	3	20	80	100	2	
	BSCCSP 282	Linux Lab	3	3	10	40	50	1	
Π	BSCCSOE283 BSCCSOE284	E1: Fundamentals of Information Technology E1: Office Automation Tools	2	2	10	40	50	1	
		Total	9	8	40	160	200	4	

#### **V SEMESTER**

	Course	Course	Instruction	Duration	Marks & Credits				
Group	Code	Course	Hours/Week	of exams (Hours)	IA	Exam	Total	Credits	
	BSCCSC331	<b>RDBMS and Oracle</b>	3	3	20	80	100	2	
	BSCCSC332	E1: Microprocessor	3				100		
		Architecture and							
		8086 programming		3	20	80		2	
Т	BSCCSC333	E1: Web Development							
1		Using PHP							
	BSCCSP333	E1: Oracle and 8086							
	BSCCSD334	Programming Lab /	1	3	20	80	100	2	
I	DSCCSI 334	E2: Oracle and Web Design	+	5	20	00	100	4	
		Lab							
		Total	10	9	60	240	300	6	

#### **VI SEMESTER**

	Course	Course	Instruction	<b>Duration</b>	Marks & Credits				
Group	Code	Course	Hours/Week	(Hrs)	IA	Exam	Total	Credits	
Ι	BSCCSC381	Object Oriented Programming with JAVA	3	3	20	80	100	2	
	BSCCSC382 BSCCSC383	E1: Visual Programming / E2: Computer Graphics and Animation	3	3	20	80	100	2	
	BSCCSP383 BSCCSP384	E1:Java Programming and Visual Basic Lab / E2:Java Programming and Computer Graphics Lab	4	3	20	80	100	2	
		Total	10	9	60	240	300	6	

Total Marks: 1400 Total number of Credits: 28

## **B. Sc. CHOICE BASED CREDIT SYSTEM**

## COURSE PATTERN AND SCHEME OF EXAMINATION

## MICROBIOLOGY

## **I SEMESTER**

Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam (hrs)	Max. Marks			Credits
					IA*	Exam	Total	
Group I	BSCMBC 131	Basic Microbiology	4	3	20	80	100	2
Core Courses	BSCMBP 132	Basic Microbiology Practicals	3	3	10	40	50	1
Group II Elective Courses	BSCMBCE 133	Bioinstrumentation	2	2	10	40	50	1
<b>II SEMESTER</b>								

Group I Core Courses	BSCMBC 181	Microbial taxonomy and Culture techniques	4	3	20	80	100	2
	BSCMBP 182	Microbial taxonomy and Culture techniques Practicals	3	3	10	40	50	1
Group II Elective Courses	BSCMBCE 183	Microbial quality control in food and pharma industry	2	2	10	40	50	1

### **III SEMESTER**

Group I Core Courses	BSCMBC 231	Basic Biochemistry, Microbial Physiology and Microbial genetics	4	3	20	80	100	2
	BSCMBP 232	Basic Biochemistry, Microbial Physiology and Microbial genetics Practicals	3	3	10	40	50	1
Group II Elective Courses	BSCMBCE 233	Clinical lab techniques	2	2	10	40	50	1

IV SEMESTER									
Group I Core Courses	BSCMBC 281	Molecular Biology, Recombinant DNA Technology, Biostatistics and Bioinformatics	4	3	20	80	100	2	
	BSCMBP 282	Molecular Biology and Recombinant DNA Technology Practicals	3	3	10	40	50	1	
Group II Elective Courses	BSCMBCE 283	Elementary concepts of Microbiology	2	2	10	40	50	1	

## **V SEMESTER**

Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam (hrs)	]	Max. Mar	ks	Credits
					IA*	Exam	Total	
Group I Core Courses	BSCMBC 331	Agriculture Microbiology and Plant Pathology	4	3	20	80	100	2
	BSCMBC 332	Immunology and Medical Microbiology	4	3	20	80	100	2
	BSCMBP 333	Agriculture Microbiology, Plant pathology, Immunology and Medical Microbiology Practicals	4	4	20	80	100	2

## VI SEMESTER

Group	Course Code	Title of Courses	Instruction hrs/week	Duration of Exam (hrs)	Max. Marks			Credits
					IA*	Exam	Total	
Group I Core Courses	BSCMBC 381	Food and Industrial Microbiology	4	3	20	80	100	2
	BSCMBC 382	Environmental Microbiology	4	3	20	80	100	2
	BSCMBP 383	Food, Industrial Microbiology and Environmental Microbiology Practicals	4	4	20	80	100	2