

BHARATHIAR UNIVERSITY, COIMBATORE.

B.Sc. BOTANY

(For students admitted during the academic year 2014 – 2015 batch & onwards)

SCHEME OF EXAMINATION - CBCS PATTERN

Part	Study Components	Course title	Ins. hrs/ week	Examinations				Credit
				Dur.Hrs	CIA	Marks	Total Marks	
SEMESTER I								
I	Language – I		6	3	25	75	100	4
II	English - I		6	3	25	75	100	4
III	Core Paper – Plant diversity I		4	3	25	75	100	4
	Core Paper II Fundamentals of Computer Applications		4	3	20	55	75	3
	Core Practicals - I		2	-	-	-	-	-
	Allied -I Paper I Zoology / Chemistry		4	3	20	55	75	3
	Allied Practicals		2	-	-	-	-	-
IV	Environmental Studies #		2	-	-	50	50	2
SEMESTER II								
I	Language – II		6	3	25	75	100	4
II	English - II		6	3	25	75	100	4
III	Core Paper III - Plant diversity II (Bryophytes, Pteridophytes Gymnosperms & Palaeobotany)		8	3	25	75	100	4
	Core Practical - Paper I		2	3	40	60	100	4
	Allied -II - Paper II Zoology / Chemistry		4	3	20	55	75	3
	Allied Practical - I		2	3	20	30	50	2
IV	Value Education – Human Rights #		2	3	-	50	50	2
SEMESTER III								
I	Language – III		6	3	25	75	100	4
II	English - III		6	3	25	75	100	4
III	Core Paper IV Cell Biology & Lab techniques		3	3	20	55	75	3
	Core Paper V ANATOMY & Embryology		4	3	25	75	100	4
	Allied III - Paper I Chemistry / Zoology		4	3	20	55	75	3
	Allied Practical		2	-	-	-	-	-
	Skill based Subject – Biodegradable waste management Paper I - Introduction to Environmental Pollution		3	3	20	55	75	3
	Tamil @ / Advanced Tamil# (OR) Non-major elective - I (Yoga for Human Excellence)# / Women's Rights#		2	3	50		50	2

SEMESTER –IV								
I	Language – IV		6	3	25	75	100	4
II	English - IV		6	3	25	75	100	4

III	Core Paper VI Medicinal Botany	5	3	25	75	100	4
	Core Practical II - Paper IV, V & VI	2	3	40	60	100	4
	Allied IV - Paper II Chemistry / Zoology	4	3	20	55	75	3
	Allied III Practical	2	3	20	30	50	2
IV	Skill based Subject – Biodegradable waste management Paper II – Urban waste and management	3	3	20	55	75	3
	Tamil @ /Advanced Tamil # (OR) Non-major elective -II (General Awareness #)	2	3	50		50	2
	SEMESTER – V						
III	Core Paper VII - Taxonomy of Angiosperms & Economic Botany	5	3	25	75	100	4
	Core Paper VIII – Genetics Plant Breeding and Biostatistics	4	3	25	75	100	4
	Core Paper IX -Ecology & Phytogeography	4	3	25	75	100	4
	Core Paper X Microbiology-Fundamentals of Microbiology	4	3	20	55	75	3
	Core Practical Paper VII, VIII, IX & X	4	-	-	-	-	-
	Elective – I	4	3	20	55	75	3
	Elective Practical	2	-	-	-	-	-
IV	Skill based Subject – Biodegradable waste management Paper III – Industrial wastes and management	3	3	20	55	75	3
	SEMESTER – VI						
III	Core Paper XI Biophysics Biochemistry & Plant Physiology	5	3	25	75	100	4
	Core Paper- XII Horticulture	5	3	25	75	100	4
	Elective – II	5	3	20	55	75	3
	Elective – III	5	3	20	55	75	3
	Core Practical III Paper VII, VIII, IX, X & XI	4	3	40	60	100	4
	Core Practical IV - Practical for Elective subjects I, II & III	2	3	40	60	100	4
	Skill based Subject – Biodegradable waste management Practical	4	3	30	45	75	3
	Extension Activities @	-	-	50	-	50	2
	Total					3500	140

@ No University Examinations. Only Continuous Internal Assessment (CIA)

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List of Elective papers (Colleges can choose any one of the paper as electives)		
Elective – I	A	Microbiology – Applied Microbiology
	B	Plant Pathology
	C	Economic Botany
Elective – II	A	Biotechnology – Concept & Techniques
	B	Seed Technology
	C	Pomology
Elective - III	A	Biotechnology – Applied biotechnology
	B	Ethnobotany
	C	Bioinformatics

Note :

1. The syllabus for the above papers (except **Paper IV Cell Biology and Lab Techniques, Paper VIII-Genetics Plant Breeding and Biostatistics**) be the same as prescribed for the academic year 2010-11.
2. The syllabus for the **Paper IV Cell Biology and Lab Techniques, Paper VIII-Genetics Plant Breeding and Biostatistics** are furnished below.

PAPER - IV

CELL BIOLOGY & LAB TECHNIQUES

Unit - I

Cell biology : Structure and function of Cell wall, Plasma membrane (fluid mosaic model only) Endoplasmic reticulum, and Ribosome.

Unit - II

Mitochondria, Chloroplast, Nucleus, Chromosome (Structure and function only)

Unit - III

Mitosis, Meiosis, DNA - Structure, Replication. RNA - types, Protein synthesis

Unit IV

Lab Techniques: Principles, Operation, Techniques and uses of pH meter, Colorimeter, Centrifugation.

Unit - V

Principles and elementary knowledge of Chromatography (paper, T L C & Column), Electrophoresis (Basics).

Practicals : In the next semester (IV)

1. Study of mitosis using Onion roots
2. Study of cell organelles through slides and Photographs
3. Demonstration of pH meter, Colorimeter, Clinical centrifuge and chromatography of leaf pigments - paper only

References :

Cytology P.S.Verma & Agarwal V.K. S.Chand & Co., NewDelhi.
Cell biology,Genetics,MolecularBiologyandEvolution.Vermaand Agarwal S.Chand & Co., NewDelhi.
Laboratory Manual.,J.Jayaraman., Wiley Eastern Ltd.,NewDelhi.
Cell Biology -C.B. Powar Himalya publishing New Delhi.
Genetics- Verma and Agarwal., S. Chand and Co.New Delhi.
Developmental Botany., A.Ragland., Saras Publication.,Nagercoil., Tamil Nadu
Cell Biology, N.Arumugam, Saras Publication.,Nagercoil., Tamil Nadu
Genetics,R.P Meyappan, Saras Publication.,Nagercoil., Tamil Nadu

PAPER - VIII

GENETICS, PLANT BREEDING AND BIostatISTICS

Unit - I

Monohybrid and Diybrid cross, Test cross, Back cross, Incomplete dominance, Gene Interaction (Complementary, Supplementary, Duplicate and Inhibitory), Polygenic, Inheritance.

Unit - II

Linkages and crossing over Multiples alleles - Blood groups in man, Polyploidy, Sex determination.

Unit - III

Mutation types, physical and Chemical Mutagens, Cytoplasmic inheritance, Nature and function of genetic material (DNA) Gene structure, Genetic code.

Unit - IV

Plant breeding - Objectives, Plant introduction, Selection, Hybridization hybrid vigour, - Achievement in Crop breeding - Sugarcane.

Unit - V

Biostatistics - Collection of data (Sampling, Classification, Tabulation and Graphic representation) Frequence distribution, Standard deviation - Mean (arithemitic Only) Median, Mode & T - test.

Practicals :

1. Study of meiosis
2. Observation of charts for Mendelian ratios, Gene interaction and Linkage - Simple Problems in genetics.
3. Simple problems in mean, median, mode in Bio - Statistics and T-test.

References :

Principles of Plant breeding., Allard - Tata McGraw Hill.,New Delhi.

Essential of genetics -Powar

Fundamentals of Genetics Singh, B.D. S.Chand & Co., NewDelhi.

Plant breeding -Singh, B.D. S.Chand & Co., NewDelhi.

Principle and Practice of Plant breeding- Sharma B.D-

Principles of Genetics.- Sinnot, Dunn and Dobzhansky, Tata McGraw Hill.,New Delhi