ALLIED BOTANY- II

Semester	Subject code	Category	Lecture		Theory		Practical	Credit
			Hrs/ Week	Total Hours/ Semester	Total Hrs/ Week	Total Hours/ Semester		
IV	21CABO 4A	Allied	4	60	4	60	-	3

COURSE OBJECTIVES

The student will be able to acquire knowledge on Microscopy observation dissection drawing and laboratory exercises'. To understand the components of Taxonomy, Embryology, Physiology and evolution.

COURSE OUTCOMES (CO)

On the successful completion of the course, the student will be able to

CO NUMBER	CO Statement	Knowledge level (K1-K4)
CO1	Understand the systematic position and economic importance of flowering plants	K2
CO2	Imbibe knowledge on embryological characters and plant reproductive biology.	K3
CO 3	Update the knowledge on plant tissue culture and its applications.	K2
CO 4	Understand the concept of Mendelism and evolutionary theories.	K2
CO 5	Apply the knowledge in utilizing plants as a traditional medicines.	K3

Knowledge level: K1- Remember; K2-Understand; K3-Apply; K4- Analyze

MAPPING WITH PROGRAMME OUTCOMES

COS	PO1	PO2	PO3	PO4	PO5	PO6
CO1	S	S	M	S	M	S
CO2	S	M	M	S	S	M
CO3	M	M	S	M	M	S
CO4	S	S	M	S	S	M
CO5	M	M	S	S	M	S

S-Strong; M-Medium; L-Low

Unit I Taxonomy **14Hrs**

General outline of APG, Bentham & Hooker's system of classification. Study of the range of characters and Economic importance of the following families. Annonaceae, Asteraceae, Apocyanaceae, Euphorbiaceae and Poaceae.

Unit II Embryology **10Hrs**

Structure of Mature Anther, development of male gametophyte. Structure of Mature Ovule and its Type, Fertilization, Double fertilization, Triple fusion, Post fertilization changes and development of Dicot Embryo.

Unit III Plant Physiology & Plant Tissue Culture **14Hrs**

Photosynthesis-Light Reaction , Calvin cycle.Respiration-Glycolysis, Kreb's Cycle, Electron transport system. Nitrogen Cycle, Growth Hormones-Auxins, Gibberellins. Tissue Culture – Introduction – Principles- Advantages. Types of Medium. (MS)

Unit IV Genetics & Evolution **10Hrs**

Genetics- Definition, Introduction to Mendelism- Mendelian Priciples, Monohybird and Dihybird crosses, Interaction of Genes-Complementary factors.

Evolution-Theories of Evolution, Lamarckism and Darwinism.

Unit V Medicinal Plants **12Hrs**

History, Scope and Importance of Medicinal Plants - Indigenous Medicinal Sciences - Ayurveda, Siddha, Unani.

Systematic position and medicinal uses of the following herbs in curing various ailments: Ocimum sanctum, Zingiber officinale, Solanum trilobatum, Curcuma longa, Azadirachta indica, Andrographis paniculata, Cassia auriculata, Catharanthus roseus, Phyllanthus amarus and Aloe vera.

TEXT BOOKS

S.No	Authors	Title	Publishers	Year of publication
1	Bhatnagar,SP, Dantu P.K, Bhojwani SS	The Embryology of Angiosperms	Vikas_ Publishing House. Delhi	2014
2	G.L.Chopra	Angiosperm	Raj Rattan Press	1977
3	Dr.Annie Ragland & co.	Plant Physiology	Saras Publications	2009
4	Dr.N.Arumugam	Cytology Genetics & Evolution	Saras Publications	2010
5	Trivedi P. C.,	Medicinal Plants Ethnobotanical Approach,	Agrobios, India.	2006

REFERENCE BOOKS

S.No	Authors	Title	Publishers	Year of publication
1	Simpson M.G	Plant systematics,	Elsevier Academic Press,USA	2006
2	Dwivedi, J.N.	Embryology of Angiosperms.	Rastogi & Co., Meerut	1988
3	Bhojwani, SS. and Razdan, MK	Plant tissue culture .	Read Elsevier India Pvt. Ltd	2004
4	Bhattacharjee, S.K.	Hand Book of Medicinal plants.	Pointer Publishers, Jaipur	2004
5	Lewin	Gene IX	Jones and Barlett Pub	2007

WEB RESOURCES

www.britannica.com

www.sciencedirect.com

www.intechopen.com

www.healthline.com

www.nature.com

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