PAPER TITLE: PLANT AND ANIMAL PHYSIOLOGY

SEMESTER: IV

PAPER CODE: BIO-IV.E-5

NAME OF FACULTY: MS. VALLANKA A.V. DIAS

MARKS: 75 MARKS THEORY + 25 MARKS PRACTICAL

CREDITS: 3 (THEORY) + 1 (PRACTICAL)

LECTURE	TOPIC	SUB-TOPIC	REFERENCE
1	Introductory lecture	Review of the previous semester, Brief description of the paper	-
2	Plant – Water Relations	Absorption (passive and active)	**Botany by V. Verma**, **Fundamentals of Plant physiology by V.K Jain**
3		Ascent of sap and transpiration	
4 & 5	Photosynthesis & photorespiration	Chloroplast pigments, photosystem I and II	Plant Physiology by Hopkins **Botany by V. Verma**, **Fundamentals of Plant physiology by V.K Jain**
6 & 7		Electron flow through cyclic and non-cyclic photophosphorylation	
8		CO_2 fixation in C3 plants	
9		CO_2 fixation in C4 plants	
10		CAM and glycolate pathways	
11	Physiology of flowering in angiosperms	Photoperiodism, vernalization and dormancy	Plant Physiology by Hopkins **Botany by V. Verma**, **Fundamentals of Plant physiology by V.K Jain**
12		Molecular models of flowering: ABC model	
13	**Tutorials/Revision**		
14	**Continuous Assessment I (Assignment + Viva)**		
15	Plant hormones and regulation of plant growth	Hormones - Auxin, cytokinin,	Plant Physiology by Hopkins **Botany by V. Verma**, **Fundamentals of Plant physiology by V.K Jain**
16		Gibberllins, Ethylene and Abscissic acid	
17		Regulation of plant growth and development	
18	Secondary metabolites in plant	Classification of secondary metabolites and sources of: Phenolics	**Fundamentals of Plant physiology by V.K Jain**
19		Porphyrins, Terpenoids Alkaloids	
20	**Feedback of Continuous assessment I**		

21 & 22	Digestion	The digestive system and associated glands in mammals.	Essentials of Medical Physiology by Sembulingum
23 & 24	Muscular System	Introduction to the muscular system, Types of Muscles, Muscle movement	Essentials of Medical Physiology by Sembulingum
25 & 26	Respiration and Circulation	The respiratory system – organs and their function	Essentials of Medical Physiology by Sembulingum
27 & 28		The circulatory system – components and their function	
29	**Tutorials/Revision**		
30	**Continuous Assessment II (Subjective)**		
31	**Feedback of Continuous assessment II**		
32 & 33	Excretory system	The excretory system and associated functions.	Essentials of Medical Physiology by Sembulingum
34 & 35	Nervous system	The nervous system and associated functions.	Essentials of Medical Physiology by Sembulingum
36	Gametogenesis and reproductive physiology	Spermatogenesis	Essentials of Medical Physiology by Sembulingum
37		oogenesis	
38		Mammalian reproductive physiology – male reproductive system	
39		female reproductive system	
40 & 41		An overview of developmental biology and regulatory mechanisms	
42	**Tutorials/Revision**		
43	**Continuous Assessment III (Objective)**		
44	**Feedback of Continuous assessment III**		
45	**Revision, Paper pattern discussion, Instructions for the semester end exam**		