

FATIMA MATA NATIONAL COLLEGE (AUTONOMOUS), KOLLAM
DEPARTMENT OF BOTANY

Teaching Plan 2018 - 2019

Subject: BOTANY Semester: IV

Paper: 15PB041

Title: PLANT PHYSIOLOGY, BIOCHEMISTRY AND ENZYMOLOGY

Name of Teacher	Initials	Module No	Title of the Module	IH
Mrs. Nirmala Jeyarani	NJ	A- 1,2,3,6,7,8,9	Plant Physiology	34
Mrs. Anitha B	AN	A-4,5	Plant Physiology	11
Dr. Shaiju	SP	B-1,2,3,4,7	Plant Biochemistry	36
Dr. Sinilal B	SL	B- 5,6	Plant Biochemistry	16
Dr. Merilyn	MV	C-1,2,8,9,10	Enzymology	19
Mrs. Anitha B	AN	C-3,7	Enzymology	9
Mrs. Smirithy S Pillai	SM	C-4,5,6	Enzymology	19
Total Instructional Hours (IH)				144

Day	Date	Topic	IH	Teacher
D1	14/1/2019	Biochemical organization of cell	1	SP
D1	14/1/2019	Enzyme purification methods	1	SM
D2	15/1/2019	-----		
D3	16/1/2019	Photosynthesis: Efficiency and turn over	1	NJ
D3	16/1/2019	Secondary metabolism- pathways and their inter-relationships	1	SL
D3	16/1/2019	Plant enzymes- general properties	1	MV
D3	16/1/2019	Sub cellular localization of enzymes by	1	AN

		LM		
D4	17/1/2019	-----		
D5	18/1/2019	Biochemical organization of cell	1	SP
D5	18/1/2019	Light harvesting complexes: Photosystem I – structure and function	1	NJ
D6	21/1/2019	Biochemical organization of cell	1	SP
D6	21/1/2019	Characterization of enzymes	1	SM
D7	22/1/2019	-----		
D8	23/1/2019	Secondary metabolism- pathways and their inter-relationships	1	SL
D8	23/1/2019	Light harvesting complexes: Photosystem II – structure and function	1	NJ
D8	23/1/2019	Plant enzymes – classifications	1	MV
D8	23/1/2019	Photo regulation and growth responses	1	AN
D9	24/1/2019	-----		
D10	25/1/2019	Biochemical organization of cell	1	SP
D10	25/1/2019	Mechanism of Electron Transport – water oxidizing clock	1	NJ
D11	28/1/2019	Biochemical organization of cell	1	SP
D11	28/1/2019	Characterization of enzymes(contd..)	1	SM
D12	29/1/2019	-----		
D13	30/1/2019	Secondary metabolism- pathways and their inter-relationships	1	SL
D13	30/1/2019	Mechanism of Electron Transport – water oxidizing clock	1	NJ
D13	30/1/2019	Nomenclature of enzymes	1	MV
D13	30/1/2019	Growth regulators- Auxins, Cytokinins	1	AN

		and Giberellins- their mode of action		
D14	31/1/2019	-----		
D15	1/2/2019	Biochemical organization of cell	1	SP
D15	1/2/2019	Rubisco – structure and function	1	NJ
D16	4/2/2019	Biochemical organization of cell	1	SP
D16	4/2/2019	Desalting methods of enzymes	1	SM
D17	5/2/2019	-----		
D18	6/2/2019	Secondary metabolism- pathways and their inter-relationships	1	SL
D18	6/2/2019	Rubisco – structure and function	1	NJ
D18	6/2/2019	Structural organization of enzymes	1	MV
D18	6/2/2019	Sub cellular localization of enzymes by TEM	1	AN
D19	7/2/2019	-----		
D20	8/2/2019	Biochemical organization of cell	1	SP
D20	8/2/2019	Photo inhibition Phytochromes	1	NJ
D21	11/2/2019	Metabolism of plant cell	1	SP
D21	11/2/2019	Isolation and assay of plant enzymes	1	SM
D22	12/2/2019	-----		
D23	13/2/2019	Secondary metabolism- pathways and their inter-relationships	1	SL
D23	13/2/2019	CO ₂ fixation : C3 and C4 pathway	1	NJ
D23	13/2/2019	Functional organization of enzymes	1	MV
D23	13/2/2019	Growth regulators- Ethylene, Abscisic acid, Brassino steriods - their mode of action	1	AN

D24	14/2/2019	-----		
D25	15/2/2019	Metabolism of plant cell	1	SP
D25	15/2/2019	CO ₂ Fixation : CAM pathway, Energetics of CO ₂ Fixation	1	NJ
D26	18/2/2019	Metabolism of plant cell	1	SP
D26	18/2/2019	Enzyme kinetics	1	SM
D27	19/2/2019	-----		
D28	20/2/2019	Secondary metabolism- pathways and their inter-relationships	1	SL
D28	20/2/2019	Photorespiration	1	NJ
D28	20/2/2019	Primary, secondary and tertiary structure of enzymes	1	MV
D28	20/2/2019	Histochemistry of enzyme reaction	1	AN
D29	21/2/2019	-----		
D30	22/2/2019	Metabolism of plant cell	1	SP
D30	22/2/2019	Glycolate metabolism	1	NJ
D31	25/2/2019	Metabolism of plant cell	2	SP
D31	25/2/2019	Michaelis Menton Equations	1	SM
D32	26/2/2019	-----		
D33	27/2/2019	Secondary metabolism- pathways and their inter-relationships	1	SL
D33	27/2/2019	Mechanism of photorespiration in C3 and C4 plants	1	NJ
D33	27/2/2019	Molecular characterization of enzymes	1	MV
D33	27/2/2019	Plant morphogenesis	1	AN
D34	28/2/2019	-----		

D35	1/3/2019	Biochemical energetics	1	SP
D35	1/3/2019	Mechanism of photorespiration in C3 and C4 plants	1	NJ
D36	4/3/2019	Metabolism of plant cell	1	SP
D36	4/3/2019	Michaelis Menton Equations (contd...)	1	SM
D37	5/3/2019	-----		
D37	6/3/2019	Secondary metabolism- pathways and their inter-relationships	1	SL
D37	6/3/2019	Mechanism of photorespiration in C3 and C4 plants	1	NJ
D37	6/3/2019	Functional organization of enzymes	1	MV
D37	6/3/2019	Histochemistry of enzyme reaction(contd..)	1	AN
D38	7/3/2019	-----		
D39	8/3/2019	Biochemical energetics	1	SP
D39	8/3/2019	Factors regulating photorespiration	1	NJ
D40	11/3/2019	Intermediary metabolism- major pathways	1	SP
D40	11/3/2019	Significance of Michaelis Menton equations	1	SM
D41	12/3/2019	-----		
D42	13/3/2019	CAT I		
D43	14/3/2019	CAT I		
D44	15/3/2019	CAT I		
D45	18/3/2019	CAT I		
D46	19/3/2019	CAT I		
D47	20/3/2019	Secondary metabolism- pathways and	1	SL

		their inter-relationships		
D47	20/3/2019	Transport of metabolites	1	NJ
D47	20/3/2019	Iso Electric Focusing	1	MV
D47	20/3/2019	Physiology of flowering and fruit ripening.	1	AN
D48	21/3/2019	-----		
D49	22/3/2019	Intermediary metabolism- major pathways	2	SP
D49	22/3/2019	Xylem and phloem sap translocation	1	NJ
D50	25/3/2019	Intermediary metabolism- major pathways	1	SP
D50	25/3/2019	Line weaver plots	1	SM
D51	26/3/2019	-----		
D52	27/3/2019	Protein structure- primary, secondary	1	SL
D52	27/3/2019	Xylem and phloem sap translocation	1	NJ
D52	27/3/2019	Iso Electric Focusing (contd..)	2	MV
D52	27/3/2019	Native PAGE in enzyme localization- principles	1	AN
D53	28/3/2019	-----		
D54	29/3/2019	Intermediary metabolism- major pathways	1	SP
D54	29/3/2019	Xylem and phloem sap translocation- current trends	1	NJ
D55	1/4/2019	Intermediary metabolism- major pathways	1	SP
D55	1/4/2019	Enzyme inhibitors	1	SM
D56	2/4/2019	-----		

D57	3/4/2019	Protein structure- primary, secondary	1	SL
D57	3/4/2019	Xylem and phloem sap translocation- current trends	1	NJ
D57	3/4/2019	Immobilization of enzymes	1	MV
D57	3/4/2019	Senescence, Abscission and Vernalization	2	AN
D58	4/4/2019	-----		
D59	5/4/2019	Intermediary metabolism- major pathways	1	SP
D59	5/4/2019	Physiological responses of plants to stresses - drought	1	NJ
D60	8/4/2019	Intermediary metabolism- major pathways	1	SP
D60	8/4/2019	Enzyme activation	1	SM
D61	9/4/2019	-----		
D62	10/4/2019	Protein structure- tertiary	1	SL
D62	10/4/2019	Physiological responses of plants to stresses - heat	1	NJ
D62	10/4/2019	Enzyme engineering techniques	2	MV
D62	10/4/2019	-Native PAGE in enzyme localization- Methodology	1	AN
D63	11/4/2019	-----		
D64	12/4/2019	Intermediary metabolism- major pathways	1	SP
D64	12/4/2019	Physiological responses of plants to stresses - cold	1	NJ
D65	15/4/2019	Intermediary metabolism- major pathways and evolutionary significance	1	SP

D65	15/4/2019	Allosteric enzymes	1	SM
D66	16/4/2019	-----		
D67	17/4/2019	Protein structure-quaternary	1	SL
D67	17/4/2019	Salt tolerance in plants	1	NJ
D67	17/4/2019	Enzyme engineering techniques (contd..)	1	MV
D67	17/4/2019	Seed metabolism	2	AN
D68	18/4/2019	-----		
D69	19/4/2019	Primary metabolic pathways and their inter relationships	2	SP
D69	19/4/2019	Salt tolerance in plants	1	NJ
D70	22/4/2019	Primary metabolic pathways and their inter relationships	1	SP
D70	22/4/2019	Metabolic regulation of enzymes-sigmoid pathways	1	SM
D71	23/4/2019	-----		
D72	3/6/2019	Primary metabolic pathways and their inter relationships	1	SP
D72	3/6/2019	Metabolic regulation of enzymes-kinetic pathway	1	SM
D73	4/6/2019	-----		
D74	5/6/2019	Purification of enzymes - methods	1	SL
D74	5/6/2019	Defense mechanism – Phenyl Propanoid Pathway in plants	1	NJ
D74	5/6/2019	Enzyme engineering techniques (contd..)	1	MV
D74	5/6/2019	Seed metabolism , interrelationship between growing seedlings & their	2	AN

		storage tissue		
D75	6/6/2019	-----		
D75	7/6/2019	Primary metabolic pathways and their inter relationships	1	SP
D75	7/6/2019	Role of Phytoalexins in plants	1	NJ
D76	10/6/2019	Primary metabolic pathways and their inter relationships	2	SP
D76	10/6/2019	Metabolic regulation of enzymes- steady state metabolic pathways (contd..)	1	SM
D77	11/6/2019	-----		
D78	12/6/2019	Purification of enzymes - methods	1	SL
D78	12/6/2019	Tree Physiology – leaf canopies	1	NJ
D78	12/6/2019	Enzyme engineering techniques (contd.), Enzyme application	2	MV
D78	12/6/2019	Zymogram	1	AN
D79	13/6/2019	-----		
D80	14/6/2019	Biomolecular interactions	1	SP
D80	14/6/2019	Tree Physiology –radiation environment	2	NJ
D81	17/6/2019	CAT II		
D82	18/6/2019	CAT II		
D83	19/6/2019	CAT II		
D84	20/6/2019	CAT II		
D85	21/6/2019	CAT II		
D86	24/6/2019	Biomolecular interactions	1	SP
D86	24/6/2019	Control of enzymatic pathways	2	SM
D87	25/6/2019	-----		

D88	26/6/2019	Purification of enzymes - methods	1	SL
D88	26/6/2019	Tree and water relations, Effect of irradiance in plants	2	NJ
D88	26/6/2019	Biotechnological applications of enzymes	1	MV
D88	26/6/2019	Applications and uses of PAGE , Native PAGE in enzyme localization different types	2	AN
D89	27/6/2019	-----		
D90	28/6/2019	Biomolecular interactions	1	SP
D90	28/6/2019	Allelopathy – plant derived compounds	1	NJ
		Total Hours	144	

J. Nirmala Jeyarani

Name & Signature of the Course Co-ordinator