LESSON PLAN
(Even Semester 2023-24)
Department of Botany

Teachers: Dr. Priyanka Khanduri (PK)
Mrs. Mahasweta Das Banerjee (MD)

Semester- VI
DSE: ECONOMIC BOTANY THEORETICAL (Credits 4, Lectures 60)

Semester end Theory exam: 50 marks
Internal Examination: 20 marks
Semester end Practical exam: 30 marks

Unit	Topic	Teacher	Number of lectures & Time
1	**Origin of cultivated plants**: 1.1 Concepts of centres of origin and their importance with reference to Vavilov's work.	MD	12 (From 4th week of March till 3rd week of April) *Class Test on completion of unit*
2	**Rice:** origin, morphology and uses.	MD	12 (From 4th week of April till 2nd week of May) *Class Test on completion of unit*
3	**Legumes**: General account with special reference to *Vigna*.	MD	8 (2nd & 3rd week of June) *Class Test on completion of unit*
4	**Beverages**: Tea- morphology, processing and uses.	PK	12 (From 4th week of March till 3rd week of April) *Two class tests*
5	**Study of the following economically important plants (Scientific names, families, parts used and importance)**: 5.1 Cereals- Rice, wheat, 5.2 Pulses- Mong, gram, 5.3 Spices-Ginger, cumin, 5.4 Beverages- Tea, coffee, 5.5 Medicinal plants- Cinchona, neem,	PK	16 (From 4th week of April till 2nd week of May; 2nd & 3rd week of June) *Two class tests*

	Ipecac, Vasaka, 5.6 Oil yielding plants- Mustard, groundnut, coconut, 5.7 Vegetables- Potato, raddish, bottle groud, cabbage, 5.8 Fibre yielding plants- Cotton, jute, 5.9 Timber yielding plants- Teak, Sal 5.10 Fruits- Mango, apple, 5.11 Sugar yielding plant- Sugarcane.		

Semester- VI
SEC B PLANT BIOTECHNOLOGY (Credits 2, Lectures 30)

Semester end Theory exam: 80 marks
Internal Examination: 20 marks

Unit	Topic	Teacher	Number of Lectures & Time
1	**Plant tissue culture**- 1.1 Introduction and basic concepts, 1.2 Cellular potency, 1.3 Callus culture and plant regeneration.	PK	4 (4^{th} week of March & 1^{st} week of April) *Class Test on completion of unit*
2	**Micropropagation**- 2.1 Somatic embryogenesis and artificial seed.	PK	4 (2^{nd} and 3^{rd} week of April) *Class Test on completion of unit*
3	**Protoplast culture and its application**	PK	6 (From 4^{th} week of April till $1s^{t}$ week of May) *Class Test on completion of unit*
4	**Recombinant DNA technology**- 4.1 Recombinant DNA, 4.2 Restriction enzymes, 4.3 Plasmids as vectors.	PK	8 (2^{nd} and 3^{rd} week of May) *Class Test on completion of unit*
5	**Gene cloning (basic steps)**	PK	4 (4^{th} week of May and 1^{st} week of June) *Class Test on completion of unit*
6	**Achievements in crop biotechnology**- 6.1 Pest resistant plant (Bt cotton), 6.2 Transgenic crops with improved quality (flavr tomato and golden rice)	PK	4 (2^{nd} and 3^{rd} week of June) *Class Test on completion of unit*