Paper / Subject Code: 24236 / Botany: Form & Function III

Tin	ne – 3 hr. Marks	100
	N.B. 1. All questions are compulsory.	500
	2. Draw neat labelled diagrams wherever necessary.	30 %
	3. All questions carry equal marks.	100 J
Q.1	Attempt any two	20
a	Describe in detail the structure of a pre mRNA molecule.	207
b	Explain the steps involved in the process of elongation of a polypeptide chain during protein synthesis	
c	Explain degeneracy and Wobble as characteristics of the genetic code	996
d	Describe the structure and function of nucleopore complex.	5.6
Q.2	Attempt any two	20
a	Define carriers and explain their role in transport of solutes across a cell membrane.	
b	Describe the anatomy of sieve tube elements and companion cells.	J. K.
c	Describe matric, solute and pressure potential as components of water potential)
d	What is meant by passive transport? Describe the modes of passive transport in plants.	
Q.3	Attempt any two	20
a	What is bioremediation? Discuss the methods of <i>ex situ</i> bioremediation.	
b	What is Phytoremediation? Discuss the various processes involved in phytoremediation of metals.	
c	Describe the Monoclimax theory and Polyclimax theory in plant succession.	
d	Explain the process of succession observed in Xerosere giving examples of plants in each stage.	
Q.4	Attempt any two	20
a	What is somatic embryogenesis? Give the method of inducing somatic embryogenesis.	
b	Explain the technique of isolation of protoplast. Add a note on its applications.	
С	What is plant cell suspension culture? Discuss its application for the production of secondary metabolites.	
d	Elaborate on the principle and methods involved in plant tissue culture with reference to micropropagation.	
Q.5	Attempt any four	20
a	Sequestration of toxic compounds	
b	Role of transpiration in regulation of leaf temperature	
c	Concept of source and sink	
d	Factors involved in bioremediation.	
e	Phytostabilisation	
f	Advantages of synthetic seeds	
200 V		
666		
300		