PSG COLLEGE OF ARTS & SCIENCE (AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2025

(Second Semester)

Branch-BOTANY

ANATOMY AND EMBRYOLOGY

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer ALL questions

ALL questions carry **EQUAL** marks $(10 \times 1 = 10)$

ALL questions carry EQUAL marks $(10 \times 1 = 10)$						
Question No.	Question	K Level	СО			
1	The apical meristem is represented by a solitary cell as apical cell in: a) Algae b) Bryophytes c) Pteridophytes d) Angiosperms	K1	CO1			
2	Which of the secondary wall thickness pattern on xylem is considered highly evolved? a) Annular b) Scalariform c) Pitted d) Spiral	K2	COI			
3	Accessory cambium formation is present in members of: a) Amaranthaceae b) Nyctaginaceae c) Annonaceae d) Piperaceae	K1	CO2			
4	Velamen tissue is characteristic of: a) Vanda b) Boerhaavia c) Mirabilis d) Tectona	К2	CO2			
5	The presence of fibrous bands on endothecium helps in: a) pollen germination b) nutrition c) cell division d) dehiscence of anther	KI	СОЗ			
6	The growth of pollen tube in style region is facilitated by: a) amylase b) protease c) pectinase d) cellulase	K2	СОЗ			
7	Entry of pollen tube into the ovule through integuments is called: a) mesogamy b) chalasogamy c) porogamy d) apogamy	K1	CO4			
8	After the first division of zygote, the basal cell lies close to: a) chalaza b) funiculus c) antipodals d) micropyle	K2	CO4			
9	Which of the following is not a type included in polyembryony? a) Cleavage polyembryony b) Origin of embryos other than egg cell c) Embryos develop from additional embryo sacs d) Embryos develop from zygote	K1	CO5			
10	Development of haploid embryo from an unfertilized egg is called: a) haploid parthenogenesis b) haploid apogamy c) generative apospory d) adventive embryony	K2	CO5			

Cont...

22BOP207N Cont..

SECTION - B (35 Marks)

Answer ALL questions

ALL questions carry EQUAL Marks

 $(5\times7=35)$

Question No.	Question	K Level	СО
11.a.	Elucidate various types of stomata.		T -
(OR)		K2	CO1
11.b.	Explain the internal structure of a dicot stem.	<u> </u>	<u> </u>
12.a.	Assess the anomalous behaviour of Achyranthes stem.	K3	CO2
. –. + +	(OR)		
12.b.	Analyse how heterospory lead the way to seed habit in pteridophytes.		
13.a.	Explain the wall stratification architecture of pollen wall.		
	(OR)		CO3
13.b.	Assess the methods to overcome sexual incompatibility.	<u> </u>	
14.a.	Conclude the events of a successful fertilization.		
(OR)		K5	CO4
14.b.	Compare the development of dicot and monocot embryos.	1	
15.a.	Examine the types of apomixis and the factors causing apomixis.		
(OR)		K6	CO5
15.b.	Elucidate the types and significances of parthenocarpy.	ļ	. }

SECTION -C (30 Marks)

Answer ANY THREE questions

ALL questions carry EQUAL Marks

 $(3\times10=30)$

Question No.	Question	K Level	СО
16	Discuss the ontogeny of dicot leaf.	K2	CO1
17	Narrate the technique of microtome sectioning.	K3	CO2
18	Critically analyse various kinds of parameters that facilitate stigma pollen compatibility.	K4	CO3
19	Discuss the attributes of embryology with reference to taxonomy.	K5	CO4
20	Discuss why polyembryony should be an advantageous feature in crop development.	K6	CO5

Z-Z-Z END