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5 SEM TDC BOTH (CBCS) C 11

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(Held in January/February, 2022)

BOTANY

(Core)

Paper : C-11

(Reproductive Biology of Angiosperms)

Full Marks : 53

Pass Marks : 21

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. (a) Choose the correct answer of the following : 1×3=3

(i) In angiosperms the endosperms is

- (1) triploid (3n)
- (2) diploid (2n)
- (3) haploid (n)
- (4) None of the above

(2)

(ii) When the body of the ovule, embryo sac, micropyle and funicle, all lie in one vertical plane the ovule is

- (1) anatropous
- (2) orthotropous
- (3) amphitropous
- (4) campylotropous

(iii) The process of double fertilization (triple fusion) was discovered by

- (1) Nawaschin
- (2) Leeuwenhoek
- (3) Strasburger
- (4) Hofmeister

(b) Fill in the blanks of the following : $1 \times 2 = 2$

(i) Finger-like projections present in synergids are called _____.

(ii) Typical 8-nucleate embryo sac is called _____.

2. Write precise notes on the following : $4 \times 3 = 12$

- (a) Double fertilization and its significance
- (b) NPC system
- (c) Apomixis

(3)

3. What is microspore? Describe the formation of microspores within the microsporangium. Draw diagram where necessary. $2+8+2=12$

Or

Answer/Write explanatory note of the following :

$6+6=12$

(a) "The flower is equivalent to a modified shoot." Justify the statement with reasons.

(b) Polyembryony and its significance

4. What do you mean by embryogenesis? Describe the stages of development of a typical dicot embryo giving necessary diagram. $2+8+2=12$

Or

Write notes of the following : $4 \times 3 = 12$

- (a) Monosporic type of embryo sac
- (b) Parthenocarpy and its significance
- (c) Difference between dicot and monocot embryo

(4)

5. What is self-incompatibility? Describe about the homomorphic and heteromorphic self-incompatibility. What are the methods to overcome self-incompatibility? $2+6+4=12$

Or

Describe the different types of contrivances of cross-pollination giving example in each case. Why nature prefers cross-pollination? $8+4=12$

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