

Roll No.

(05/25)

5225

B.Sc. EXAMINATION

(Fourth Semester)

BOTANY

Paper-II

Plant Embryology

Time : Three Hours

Maximum Marks : 40

Note : Question No. 1 is compulsory. Attempt *four* others selecting *two* questions from each Unit. All questions carry equal marks.

1. Explain the following : $1 \times 8 = 8$

(a) Define stamen. Describe diagrammatically the various part of an anther.

(b) Ornithophily

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- (c) Autogamy
- (d) Crassinucellate
- (e) Polyspermy
- (f) Name the scientist and plant where double fertilization was discovered.
- (g) Parthenocarpic fruits
- (h) Cremocarp

Unit I

2. (a) Describe the factors which promote cross-pollination.
- (b) Define hydrophily and give the characteristic features of hydrophilous flower. 4+4=8
3. (a) Explain the pollen-pistil interaction.
- (b) Describe pollen germination, growth of pollen tube through stylar canal and entry of pollen tube in to ovules. 4+4=8

4. (a) What is pollen grain ? Describe the structure of wall layers.
- (b) Describe the development of male gametophyte in angiosperms. 4+4=8
5. Write notes on the following : 4+4=8
 - (a) Describe development of ovule and process of megasporogenesis.
 - (b) Describe the structure of a typical embryo sac in angiosperms.

Unit II

6. (a) Explain the different types of endosperm and its functions.
- (b) Describe double fertilization and its significance. 4+4=8
7. Describe in detail the development of a monocot embryo. 8

8. Write notes on the following : $4+4=8$

- (a) Describe the structure of maize grain.
- (b) Germination of monocot seed (maize grain)

9. Write notes on the following : $2+3+3=8$

- (a) Autochory
- (b) Types of capsular fruits
- (c) Characteristics of hydrochorous seeds.

