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**3 (Sem-5/CBCS) BOT HC 1**

**2022**

**BOTANY**

(Honours)

Paper : BOT-HC-5016

**(Reproductive Biology of Angiosperms)**

Full Marks : 60

Time : Three hours

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

1. Answer **any seven** questions from the following : 1×7=7
  - (a) What are the Polyads ?
  - (b) Mention the function of obturator in angiospermic Ovule ?
  - (c) What is male sterility ?
  - (d) Differentiate between 'Aril' and 'Caruncle'.
  - (e) What is malacophily ?

Contd.

- (f) Define parthenogenesis.
- (g) Mention *one* example of ruminant endosperm.
- (h) Write the primary function of Tapetum.
- (i) What are the ex-albuminous seeds?
- (j) How many male gametes are produced from one pollen grain?
- (k) Megaspore Mother cell is haploid or diploid.
- (l) What is the stalk of the ovule called?

2. Answer **any four** questions from the following: 2×4=8

- (a) What do you mean by hypostase in an angiospermic ovule?
- (b) What do you understand by double fertilization?
- (c) How cybrids are different from hybrids?
- (d) What is florigen and what is its function?
- (e) Define apospory.
- (f) Write about the significance of entomophily.

- (g) Is parasexual hybridization and somatic hybridization same?
- (h) What are the functions of a suspensor?

3. Answer **any three** questions from the following: 5×3=15

- (a) Describe briefly about the pollen wall proteins.
- (b) Write note on the NPC system of pollen classification.
- (c) Describe the polygonum type of megagametogenesis in angiosperms.
- (d) Differentiate between intra-ovarian pollination and *in vitro* pollination.
- (e) Describe briefly about the Biological significance of self incompatibility.
- (f) 'Flower is a modified shoot' — Elaborate the statement.
- (g) Discuss the scope and application of Palynology.
- (h) Discuss the Embryo-embryo relationship.

4. Answer **any three** of the following questions : 10×3=30

- (a) Draw and describe different types of embryo sac development in Dicot plants.
- (b) With the help of diagram describe the organisation and ultrastructure of mature embryo sac.
- (c) Explain in details the classification, causes and importance of polyembryony.
- (d) Discuss the embryonic development in monocots with the help of neat labelled diagrams.
- (e) Describe the different types of endosperm haustoria in Angiosperms with suitable diagram.
- (f) Discuss the genetic and molecular aspects of flower development in Angiosperms.
- (g) Discuss the different types of self-incompatibility and elaborate the Genetic basis of it.
- (h) Discuss different types of Apomixis in plants and their practical applications.