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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 : $5 \times 3 = 15$

(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 : $10 \times 3 = 30$

- (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 molecules 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.