Total number of printed pages–4

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 ruminate 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 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.