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3 (Sem-5/CBCS) BOT HC 1

2021

(Held in 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 the following questions : $1 \times 7 = 7$
 - (a) What type of pollinium are produced by most of the orchids and milkweeds?
 - (b) What is parasexual hybridization ?
 - (c) What are the ruminant endosperm ?

Contd.

- (d) What is callose deposition during microsporogenesis ?
- (e) What is pollen viability ?
- (f) What is endothelium ?
- (g) What are hypostases ?

2. Answer the following in brief : $2 \times 4 = 8$

- (a) What do you mean by Gametophytic self-sterility and Sporophytic-self sterility ?
- (b) What are cybrids ?
- (c) What do you mean by double fertilization in angiosperms ?
- (d) Distinguish between self-incompatibility and male sterility.

3. Answer the following questions briefly : **(any three)** $5 \times 3 = 15$

- (a) Write a note on NPC system of pollen classification.

- (b) Describe the causes of polyembryony.
- (c) Write the differences between dicot and monocot embryo development.
- (d) Write the adaptations of hydrophilous flowers.
- (e) Write a note on storage and germination of pollen grains.

4. Answer the following questions :

- (a) Describe the microsporogenesis and microgametogenesis process with suitable diagram. 10

Or

Draw and describe the dicotyledonous embryo and its development. 10

- (b) What are the different types of endosperms ? Describe the endosperm haustoria found in different angiosperms with suitable diagram. 2+8=10

Or

What is self-incompatibility ? Describe the different methods to overcome self-incompatibility in plants. 10

- (c) Elaborate the causes and applications of apomixis in plants. 10

Or

Describe the fertilization process starting from the entry of pollen tube into the ovule. 10