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

**2024**

**BOTANY**

(Honours)

Paper : BOT-HC-5016

***(Reproductive Biology of Angiosperm)***

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) Who formulated the ABC model of flower development ?
  - (b) Write the name of the gene which form callose in meiocytes.
  - (c) What is pollinia ?
  - (d) What is apomixis ?
  - (e) What is tapetum ?

Contd.



(f) What is the number of APC in *Polygonum* type of embryo sac ?

(g) Define polyembryony.

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

(a) Why the tube nucleus is regarded as "Non-functional Vestigial Structure" ?

(b) Write the functions of tapetum.

(c) Write the differences between Anacatatrema and Zonotreme types of pollen grains.

(d) What is double fertilization ?

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

(a) Discuss about the Pollen Wall Proteins and their significance.

(b) Briefly describe the NPC systems of Pollen Classification.

(c) What is pollination ? Discuss various pollination types in flowering plants.

(d) Justify the statement *Flower is a modified determinate shoot* .

(e) What are the objectives of experimental embryology ?

4. Answer **any three** of the following questions :  $10 \times 3 = 30$

(a) Discuss the ABC Model of Flower Development in flowering plants.

(b) Describe the microgametophyte development of flowering plants with label diagram.

(c) What is female gametophyte ? Describe in detail, the structure of various types of tetrasporic embryo sacs found in angiosperms.  $2 + 8 = 10$

(d) Discuss the post-fertilization changes within the megasporangium (ovule).

(e) What is endosperm ? Describe various types of endosperms found in Angiosperms with neat diagram.  $2 + 8 = 10$

(f) Write the development of a typical dicotyledonous embryo. Add a note on dispersal of seeds.  $6 + 4 = 10$

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