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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. $6 + 4 = 10$