

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 : 1×7=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 : 2×4=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 : 5×3=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 : 10×2=20

- (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