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 :   1×7=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 ?

(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 Anacatatreme 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 : 10×3=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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