2026

BOTANY

(Major)

Paper : BOT4200304MJ

(Reproductive Biology of Angiosperm)

Anandaram Dhekial Phookan College Library
Acc. No.
Date
Nagaon : Assam

Full Marks : 45

Time : 2 hours

The figures in the margin indicate full marks for the questions.

1. Answer the following as directed : 1×5=5

   (a) What was the notable contribution of G. B. Amici?

   (b) AG is a gene that specify _____ development of the flower.

   (Fill in the blank)

   (c) What is cybrid?

   (d) The inner layer of the seed coat is called ____.

   (Fill in the blank)

   (e) Double fertilization was discovered by

   (i) W. A. Jensen

   (ii) P. Maheshwari

   (iii) E. Strasburger

   (iv) S. G. Nawaschin

   (Choose the correct answer)

2. Answer the following questions (any *five*) : 2×5=10

   (a) Write any two major contributions of W. A. Jensen in the field of reproductive biology of plants.

   (b) Define callose and a stomium.

   (c) Write a short note on foliar nature of flower genes.

   (d) What do you mean by MGU? State its components.

(e) Differentiate between the tube cell and generative cell.

(f) Define the special structures in ovules – *(i)* obturator and *(ii)* aril.

(g) What is anemophily? Mention the characters of anemophilous flower.

(h) Define pistil. Draw a labeled diagram of structure of stigma and style.

(i) What do you mean by syngamy and triple fusion?

(j) Define parasexual hybridization. Who produced the first parasexual hybrid?

3. Answer the following questions (any *four*) : 5×4=20

(a) "Flower is a modified shoot." Justify the statement.

(b) Describe the structure and development of anther in a flower.

(c) What is NPC system? Give an account of NPC system.

(d) Describe the structure and types of ovule with diagram.

(e) "Nature always prefers cross-pollination." Justify the statement.

(f) What is siphonogamy? Describe the path of pollen tube from stigma till it enters the embryo sac.

(g) Define endosperm. Discuss the different types of endosperm.

(h) What is an embryo? Mention the different types of embryos in dicotyledons.

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4. Answer the following question (any *one*) : 10

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

(b) Discuss the different types of tetrasporic embryo sac with suitable diagram.

(c) Distinguish between apomixis and polyembryony. Discuss the types of polyembryony and mention the significance of polyembryony.

(d) Write a detailed note on the following :

(i) ABC model of flower development

(ii) In vitro pollination and fertilization

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