

6/H-62 (viii) (Syllabus-2015)

2 0 1 8

(April)

BOTANY

(Honours)

**(Plant Reproductive Biology and
Plant Biotechnology)**

(BOTH-602)

Marks : 56

Time : 3 hours

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

Answer **five** questions in total. Question No. **1** is compulsory. Select remaining **four** questions, **one** from each Section

1. Write short notes on the following : $4 \times 4 = 16$

- (a) Microgametogenesis in angiosperms
- (b) Synergids and their functions
- (c) Cellular totipotency
- (d) Restriction enzymes

(2)

SECTION—I

2. With the help of suitable diagrams, describe the pollen-pistil interaction.
3. Give a detailed account of pollen morphology and its role in taxonomy with suitable illustrations.

SECTION—II

4. Write brief notes on the following :

(a) Polyembryony

(b) Monosporic embryo sac

5. Describe the structure and function of endosperm and its haustoria.

SECTION—III

6. Explain the production of haploid plants from anthers with the help of suitable diagrams.

7. Write short notes on any four of the following :

(a) Organogenesis

(b) Cryopreservation

(3)

- (c) Somatic hybrids
- (d) Meristem culture
- (e) Artificial seeds

SECTION—IV

8. What is Ti plasmid? With suitable diagram, describe how Ti plasmid is used as vector in genetic engineering. 10
9. Write short notes on the following : $2\frac{1}{2} \times 4 = 10$
 - (a) Sticky end ligation
 - (b) Significance of CRY gene in resistance against pests
 - (c) BLAST
 - (d) Reverse transcriptase
