

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

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(May/June)

BOTANY

(Honours)

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

(BOTELH-602)

Marks : 56

Time : 3 hours

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

Answer five questions in which Q. No. 1 is compulsory.

**Answer the remaining four questions,
selecting one from each Section**

1. Write short notes on the following : 4×4=16

(a) Microsporogenesis in angiosperms

(b) Synergids and their functions

(c) Artificial seeds

(d) BLAST

D23/1077

(Turn Over)

SECTION—I

2. What is microgametogenesis? Describe the phenomenon of microgametogenesis with the help of suitable diagrams. $2+8=10$
3. With the help of suitable diagrams, describe the pollen-pistil interaction. 10

SECTION—II

4. Write short notes on the following : $5+5=10$
 (a) Dicot embryogeny
 (b) Endosperm haustoria
5. What is megagametogenesis? With suitable diagrams, describe in detail the bisporic embryo sac development. $2+8=10$

SECTION—III

6. Write short notes on the following : $5+5=10$
 (a) Anther culture
 (b) Methods of sterilization
7. Describe the process of isolation of protoplast. With the help of suitable diagrams, discuss the methods of protoplast fusion for obtaining somatic hybrids in plants. $5+5=10$

SECTION—IV

8. Differentiate between the following : $2\frac{1}{2}\times 4=10$
 (a) Sticky and Blunt ends
 (b) Plasmids and Phages
 (c) Direct and Indirect gene transfer in plants
 (d) Endonucleases and Ligases
9. What is genetic engineering? Describe its application in crop improvement. $2+8=10$
