

**2 0 1 3**

**BIO-BOTANY**

**( Theory )**

*Full Marks : 35*

*Time : 1½ hours*

*General Instructions :*

- (i) Write all the answers in the Answer Script.
- (ii) Attempt all parts of a Group serially in one place.
- (iii) *All* questions are compulsory.
- (iv) The figures in the margin indicate full marks for the questions.
- (v) This question paper consists of 6 (six) Groups—A, B, C, D, E and F.

Group—A consists of 4 questions (Nos. **1-4**) of  $\frac{1}{2}$  mark each and is multiple-choice type.

Group—B consists of 4 questions (Nos. **5-8**) of 1 mark each, very short-answer type, to be answered in 1 word or 1 sentence each.

Group—C consists of 4 questions (Nos. **9-12**) of 2 marks each with one alternative from the same Group, short-answer type-I, to be answered in 20-30 words each.

( 2 )

Group—D consists of 4 questions (Nos. **13–16**) of 3 marks each with one alternative, short-answer type-II, to be answered in 30–40 words each.

Group—E consists of 1 question (No. **17**) of 4 marks with an alternative, long-answer type-I, to be answered in 60–70 words.

Group—F consists of 1 question (No. **18**) of 5 marks with an alternative, long-answer type-II, to be answered in 70–80 words.

#### GROUP—A

Choose and write the correct answer for the following :

$\frac{1}{2} \times 4 = 2$

1. A type of reproduction where fusion of gametes occurs is called
  - (a) sexual reproduction
  - (b) asexual reproduction
  - (c) vegetative reproduction
  - (d) parthenogenesis
  
2. An unorganised mass of cells is called
  - (a) totipotent
  - (b) explant
  - (c) callus
  - (d) corax

( 3 )

3. The process of transfer of genetic information is
- (a) transversion
  - (b) transcription
  - (c) translation
  - (d) translocation
4. Which of the following is not an abiotic factor?
- (a) Water
  - (b) Light
  - (c) Temperature
  - (d) Decomposer

GROUP—B

5. Define pollination. 1
6. What is totipotency? 1
7. Define community. 1
8. What is Bt cotton? 1

( 4 )

GROUP—C

9. Give the characteristics of insect-pollinated flowers. 2
10. Write a note on multiple alleles. 2

*Or*

Write a note on mutation.

11. What are transgenic organisms? Give examples. 2
12. Write the characteristics of hydrophytes. 2

GROUP—D

13. Describe the process of fertilization in angiosperm. 3
14. Explain complementary genes with examples. 3

*Or*

Write a note on symbiosis.

( 5 )

15. Briefly describe plant tissue culture. 3
16. Write a note on biosafety issues. 3

GROUP—E

17. Describe the role of microbes in household production. 4

*Or*

Distinguish between food chain and food web.

GROUP—F

18. Describe the mechanism of DNA transcription. 5

*Or*

What is population? Describe any four characteristics of a population.

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