

Total No. of Printed Pages—4

HS/XII/Sc/Bio-Bot/OC/20

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BIO-BOTANY

(Old Course)

(**Theory**)

Full Marks : 35

Time : 1½ hours

General Instructions :

- (i) Write all the answers in the Answer Script.
- (ii) All questions are compulsory.
- (iii) Attempts all parts of a Group serially in one place.
- (iv) The figures in the margin indicate full marks for the questions.
- (v) The question paper consists of 5(five) Groups—A, B, C, D and E.

Group—A consists of 4 questions (Q. Nos. **1-4**) of 1 mark each and is multiple-choice type.

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

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

Group—D consists of 3 questions (Q. Nos. **13-15**) of 3 marks each, with one alternative from the same unit, short-answer type-II, to be answered in 30-40 words each.

(2)

Group—E consists of 2 questions (Q. Nos. **16** and **17**) of 5 marks each, with one alternative for each question, long-answer type, to be answered in 70–80 words each.

GROUP—A

Choose and write the correct answer for the following: 1×4=4

1. A small opening at the apex of the integument is called
 - (a) nucellus
 - (b) funiculus
 - (c) hilum
 - (d) micropyle

2. The phenotypic ratio in complementary gene interaction is
 - (a) 9 : 3 : 3 : 1
 - (b) 1 : 2 : 1
 - (c) 9 : 7
 - (d) 3 : 1

3. Butyric acid is produced by which bacterium?
 - (a) *Clostridium*
 - (b) *Saccharomyces*
 - (c) *Penicillium*
 - (d) *Lactobacillus*

(3)

4. The term, 'ecology' was coined by

- (a) H. Reiter
- (b) E. Munch
- (c) A. G. Tansley
- (d) Ernst Haeckel

GROUP—B

- 5. Write two advantages of cross-pollination. $\frac{1}{2} \times 2 = 1$
- 6. Define epistasis. 1
- 7. Give the full form of LAB. 1
- 8. Define explant. 1

GROUP—C

- 9. Who discovered penicillin? Name the species from which penicillin is obtained. $1+1=2$
- 10. Mention the four components of soil. 2
- 11. What are genetically modified crops? Give examples. $1+1=2$
- 12. Define hybridization. Name the different types of hybridization. $1+1=2$

(4)

GROUP—D

13. Explain double fertilization with suitable diagrams. 2+1=3

Or

Give the characteristic features of anemophilous flowers. 3

14. List the functions of chromosomes. 3

15. What is single-cell protein? Explain how single-cell protein is used in therapeutic and natural medicine. 1+2=3

GROUP—E

16. Describe briefly the stages of primary succession in a hydrosere. 5

Or

Define population. Explain briefly the characteristics of population. 1+4=5

17. Describe the mechanism of DNA replication with suitable diagrams. 4+1=5

Or

Describe any five characteristics of genetic code. 5

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