Total No. of Printed Pages—4

HS/XII/Sc/Bio-Bot/18

2 0 1 8

BIO-BOTANY

(Theory)

Full Marks : 35

Time : 1½ hours

General Instructions :

(i) Write all the answers in the Answer Script.

(ii) *All* questions are compulsory.

(iii) Attempt 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 (Nos. **1– 4**) of *1* 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* sentence each.

Group—C consists of 4 questions (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 (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.

Group—E consists of 2 questions (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. In angiosperms, functional megaspore develops into

(a) endosperm

(b) pollen sac

(c) embryo sac

(d) fruit

2. *Penicillium roqueforti* is used in the production of

(a) wine

(b) curd

(c) bread

(d) cheese

3. Inheritance of ABO blood group shows

(a) polygyny

(b) polyploidy

(c) multiple allelism

(d) incomplete dominance

4. In a food chain, deers are

(a) primary producers

(b) primary consumers

(c) secondary consumers

(d) decomposers

GROUP—B

5. Define apomixis. 1

6. What is mutation? 1

7. What is a callus? 1

8. Give the scientific name of baker's yeast. 1

GROUP—C

9. What are antibiotics? Name the organism from which Penicillin was first extracted. 1+1=2

10. Give four adaptive features of halophytes. ½×4=2

11. Write a note on Bt cotton. 2

12. What is single-cell protein? Give two examples. 1+1=2

GROUP—D

13. Explain different types of endosperms with suitable diagrams. 2+1=3

Or

Give the characteristic features of anemophilous flowers. 3

14. What is incomplete dominance? Work out a cross between red flower and white flower of *Mirabilis jalapa* to show incomplete dominance. Give the phenotypic and genotypic ratios. 3

15. Write the applications of plant tissue culture. 3

GROUP—E

16. With the help of a diagram, explain the flow of energy in an ecosystem. 1+4=5

Or

Describe the negative interactions amongst different species. 5

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

Or

Explain briefly the process of translation in prokaryotes. 5

★ ★ ★