227

I

Total No. of Questions– **21**

Total No. of Printed Pages– **2**

Regd. No. | | | | | | | | | | |

Part III

BOTANY

Paper II

(English Version)

Time : 3 Hours ***Max. Marks : 60***

Note :— Read the following instructions carefully :

(*i*) Answer ALL the questions of Section A. Answer any SIX questions out of eight in Section B and answer any TWO questions out of three in Section C.

(*ii*) In Section A, questions from Sr. Nos. **1** to **10** are of very short answer type. Each question carries TWO marks. Every answer may be limited to **5** lines. Answer all these questions at one place in the same order.

(*iii*) In Section B, questions from Sr. Nos. **11** to **18** are of short answer type. Each question carries FOUR marks. Every answer may be limited to **20** lines.

(*iv*) In Section C questions from Sr. Nos. **19** to **21** are of 'Long Answer Type'. Each question carries EIGHT marks. Every answer may be limited to **60** lines.

(*v*) Draw labelled diagrams, wherever necessary for questions in Sections B and C.

SECTION A

10×2=20

Note :— Answer ALL the questions. Each answer may be limited to **5** lines.

1. What are porins ? What role do they play in diffusion ?

2. What is the primary acceptor of CO_2 in C_4 plants ? What is the first compound formed as a result of primary carboxylation in the C_4 pathway ?

3. What is transduction ? Who discovered it and in which organism ?

4. What is point mutation ? Give an example.

5. What are the components of a nucleotide ?

6. The proportion of nucleotides in a given nucleic acid are : Adenine 18%, Guanine 30%, Cytosine 42% and Uracil 10%. Name the nucleic acid and mention the number of strands in it.

7. What is the full form of PCR ? How is it useful in Biotechnology ?

8. What is GEAC and what are its objectives ?

9. Give *two* examples of wheat varieties introduced in India, which are high yielding and desease resistant.

10. Why does 'Swiss Cheese' have big holes ? Name the bacteria responsible for it.

SECTION B

6×4=24

Note :—Answer any SIX questions. Each answer may be limited to **20** lines.

11. Define and explain water potential.

12. Explain the steps involved in the formation of root nodule.

13. Write briefly about enzyme inhibitors.

14. Write any *four* physiological effects of cytokinins in plants.

15. Explain the structure of TMV.

16. Mention the advantages of selecting pea plant for experiment by Mendel.

17. Write the important features of Genetic Code.

18. List out the beneficial aspects of transgenic plants.

SECTION C

2×8=16

Note :— Answer any TWO questions. Each answer may be limited to **60** lines.

19. Give an account of glycolysis. Where does it occur ? What are the end products ? Trace the fate of these products in both aerobic and anaerobic respiration.

20. Explain briefly the various processes of recombinant DNA technology.

21. You are a Botanist working in the area of plant breeding. Describe the various steps that you will undertake to release a new variety.