227

III

Total No. of Questions : 21

Total No. of Printed Pages : 2

Reg. No.

Question Booklet Sl. 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 **Section – B** and **C.**

SECTION – A

Note : Answer **ALL** the questions. **Each** answer may be limited to **5** lines. **(10×2=20)**

1. Explain the terms phenotype and genotype.
2. Give two examples of fungi used in SCP production.
3. Does transpiration occur at night ? Give an example.
4. Distinguish between action spectrum and absorption spectrum.
5. What is conjugation ? Who discovered it and in which organism ?

6. What are the components of a transcription unit ?
7. What is meant by capping and tailing ?
8. What is full form of PCR ? How is it useful in biotechnology ?
9. Give different types of cry genes and pests, which are controlled by the protein encoded by these genes.
10. Name a microbe used for statin production. How do statin lower blood cholestrol level ?

SECTION – B

Note : Answer **ANY SIX** questions. **Each** answer may be limited to **20** lines. **(6×4=24)**

11. Write the important features of Genetic code.
12. Write briefly about enzyme inhibitors.
13. Mention the advantages of selecting pea plant for experiment by Mendel.
14. List out the beneficial aspects of transgenic plants.
15. Explain the steps involved in the formation of root nodule.
16. What is meant by plasmolysis ? How is it practically useful to us ?
17. Which one of the plant growth regulators would you use if you are asked to
    (a) Induce rooting in a twig.
    (b) Quickly ripen a fruit
    (c) Delay of leaf senescence.
    (d) Induce growth in axillary buds.
    (e) 'Bolt' a rosette plant.
    (f) Induce immediate stomatal closure in leaves.
    (g) Over come apical dominance.
    (h) Kill dicotyledonous weeds.
18. What is ICTV ? How are viruses named ?

SECTION – C

Note : Answer **ANY TWO** questions. **Each** answer may be limited to **60** lines. **(2×8=16)**

19. Describe the tissue culture technique and what are the advantages of tissue culture over conventional method of plant breeding in crop improvement programmes ?
20. Explain the reactions of Krebs cycle.
21. Give a brief account of the tools of recombinant DNA technology.