

Sr. Inter Botany Model Paper

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 Sl. Nos. **1** to **10** are “ 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 Sl. 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 Sl. Nos. **19** to **21** are of “Long Answer Type”. Each question carries **eight** marks. Every answer may be limited to **60** lines.
- (v) Draw labeled diagrams, wherever necessary for questions in Section-B and Section-C.

SECTION –A

10 x 2 = 20

Note : Answer **all** questions. Answer may be limited to **5** lines.

1. What are apoplast and symplast?
2. Why is the R.Q of fats less than that of carbohydrates?
3. What is conjugation? Who discovered it and in which organism?
4. What is the genotype of wrinkled phenotype of pea seeds?
5. Given below is the sequence of coding strand of DNA in a transcription unit.
5'A A T G C A G C T A T T A G G-3'
Write the sequence of a) its complementary strand. b) the mRNA.
6. What are the components of a transcriptional unit?
7. How can you differentiate between exonucleases and endonucleases?
8. Name the nematode that infects the roots of tobacco plants. Name the strategy adopted to prevent this infestation.
9. Name two semi-dwarf varieties of rice developed in India.
10. Name a microbe used for statin production. How do statins lower the blood cholesterol level?

SECTION – B

6 x 4 = 24

Note : Answer any **six** questions. Answer may be limited to **20** lines

11. Explain the steps involved in the formation of root nodule.
12. Explain different types of co-factors.
13. Tabulate any eight differences between C₃ and C₄ plants/cycles.
14. Write a note on agricultural/ horticultural applications of auxins.
15. Explain the lytic cycle with reference to certain viruses.
16. Define and design a test cross.
17. Write the important features of Genetic code.
18. What is chemical nature of biogas? Explain the process of biogas production.

SECTION – C

2 x 8 = 16

Note : Answer any **two** questions. Answer may be limited to **60** lines

19. Explain the reactions of Kreb's cycle.
20. Explain briefly the various processes of recombinant DNA technology.
21. Describe the tissue culture technique and what are the advantages of tissue culture over conventional method of plant breeding in crop improvement programmes?