

BOARD OF INTERMEDIATE EDUCATION

SENIOR INTER BOTANY

MODEL PAPER (ENGLISH VERSION)

TIME: 3 HOURS

MAX.MARKS: 60

SECTION – A

I. i) Very Short Answer Type questions.

ii) Answer ALL questions.

iii) Each question carries TWO marks.

10 × 2 = 20

1. Define water potential. What is the value of water potential of pure water.
2. Give 2 examples of essential elements that act as activators of enzymes.
3. Define lysis and burst size with reference to viruses and their effects on host cells.
4. What is point mutation? Give an example.
5. 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.
6. What is the difference between template strand and a coding strand in a DNA molecule?
7. What are molecular scissors? Where are they obtained from?
8. Give one example for each of transgenic plants which are suitable for food processing and those with improved nutritional quality.
9. Why do you prefer to call secondary waste water treatment as biological treatment.
10. Name 2 semi-dwarf varieties of rice developed in India.

SECTION – B

II. i) Short Answer Type questions.

ii) Answer any SIX questions.

iii) Each question carries FOUR marks.

6 × 4 = 24

11. What is meant by plasmolysis? How is it practically useful to us?
12. Transpiration and photosynthesis – a compromise. Explain/Write the important features of Genetic code.
13. Explain the Nitrogen cycle in brief, giving relevant examples.
14. Explain different types of co-factors.

(OR)

Define law of segregation and law of independent assortment.

15. Describe the process of fermentation.

16. Which plant growth regulator would you use if you are asked to
- Induce rooting in a twig
 - Quickly ripen a fruit
 - Delay of senescence
 - Induce growth in axillary bud
 - 'Bolt' a rosette plant
 - Induce stomatal closure
 - Overcome apical dominance
 - Kill dicotyledonous weeds
17. What is a prophage and temperate phage.
18. Write short note on restriction enzymes.

SECTION – C

III. i) Long Answer Type questions.

ii) Answer any TWO questions.

iii) Each question carries EIGHT marks.

2 × 8 = 16

19. Describe C₄ pathway.
20. Give a brief account of the tools of recombinant DNA technology.
21. Write brief essay on microbes in sewage treatment.

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