

HSC 12th Standard

BOTANY

Model Question Paper – 2

Time : 2.30 hours

Marks: 70

Section – I

15x1=15

Answer all the questions:-

1. Mounted herbarium specimens are sprayed with fungicide

- |                      |                      |
|----------------------|----------------------|
| a) Zinc sulphate     | b) Mercuric sulphate |
| c) Mercuric chloride | d) Zinc chloride     |

2. Which plant is called madder plant?

- |                    |                         |
|--------------------|-------------------------|
| a) Coffea arabica  | b) Cinchona officinalis |
| c) Rubia tinctoria | d) Morrinda tinctoria   |

- |               |              |
|---------------|--------------|
| c) Endodermis | d) Pericycle |
|---------------|--------------|

4. Lenticels are lens shaped openings seen in

- |              |            |
|--------------|------------|
| a) Epidermis | b) Cortex  |
| c) Cork      | d) Cambium |

5. The term chromosome was introduced by

- |             |             |
|-------------|-------------|
| a) Bridges  | b) Waldeyer |
| c) Balbiani | d) Flemming |

6. The following codons are called nonsense codons

- |                  |                  |
|------------------|------------------|
| a) UUA, UCA, UGU | b) UCC, ACU, CCU |
| c) UAA, UAG, UGA | d) ACU, CCC, GUC |

7. The ability of callus to develop into shoot or root is

- a) De-differentiation
- b) Differentiation
- c) Re-differentiation
- d) Totipotency

8. The joining of DNA fragments of vector and donor is

- a) Fusion
- b) Cloning
- c) Splicing
- d) Molecular scissor

9. One of the following organisms is SCP(Single Cell Protein)

- a) Nostoc
- b) Rhizobium
- c) Agaricus
- d) Spirulina

10. The active Enzyme in alkaline medium is

- a) Diastase
- b) Pepsin
- c) Tripsin
- d) Zymase

11. The essential component for the formation of chlorophyll

- a) Mg
- b) Fe
- c) Cl
- d) Mn

- c) Enolation
- d) Phosphorylation

13. Synthetic auxin used to eradicate weeds is

- a) PAA
- b) IAA
- c) 2, 4-D
- d) NAA

14. Binomial name of vilvum

- a) Acalypha indica
- b) Aegle marmelos
- c) Cissus quadrangularis
- d) Mimosa pudica

15. Leaves of the following plant is used instead of tea

- a) Cola nitida
- b) Ilex paragurensis
- c) Cephalis
- d) Vinca rosea

Section – II

6x2=12

Answer any six of the following. Question No.22 is compulsory:-

16. Write a note on the inflorescence of *Cocos nucifera*.
17. What is tyloses?
18. Write a note on the functions of epidermal tissue system.
19. Write about the uses of gene mapping.
20. Name the fibre yielding plants of Malvaceae.
21. Write a note on uses of SCP.
22. Differentiate photo respiration from dark respiration
23. Write a note on phytochromes and flowering.
24. What is heterosis?

Section – III

6x3=18

Answer any six of the following. Question No.27 is compulsory:-

27. Draw the structure of t-RNA
28. Draw the structure of open vascular bundle.
29. Write a note on economic importance of musaceae
30. Explain the concept of tissue culture.
31. Explain significance of Pentose phosphate pathway.
32. Write a note on the physiological effects of gibberalin.
33. Write the economic importance of rice

Section – IV

5x5=25

Answer all the following:-

34. Explain the salient features of ICBN

(Or)

Draw and label T.S of Monocot root

35. Explain *Ixora coccinea* in technical terms

(Or)

Differentiate dicot stem from Monocot stem.

36. Write a short note on mutagenic agents.

(Or)

Explain C4 cycle (explanation (Or) flow chart)

37. Write an essay on recombinant DNA technology

(Or)

Differentiate cyclic from non-cyclic photo phosphorylation.

38. Write a note on physiological effects of auxin and cytokinin.

(Or)

What is the role of BT-toxin in crop protection against pest? Explain the action of biopesticide.