

SECTION - I

BOTANY

Q. 1. Select and write the most appropriate answer from the given alternatives for each sub-question :

[7]

- (i) The pattern of ecosystem in which density and distribution of species vary along a horizontal gradient is _____.
 (a) zonation (b) stratification
 (c) ecological niche (d) speciation
- (ii) The enzyme affecting the shelf life of flavr savr tomato is _____.
 (a) galactosidase (b) trans acetylase
 (c) permease (d) polygalactouranase
- (iii) In nomenclature of RENs (restriction endo-nucleases) Hind III, III stands for _____.
 (a) genus name (b) species name
 (c) order of discovery (d) strain of the organism
- (iv) *Rhizobium phaseoli* fixes atmospheric nitrogen symbiotically in _____.
 (a) pea (b) bean (c) jowar (d) maize
- (v) In nucleotide, the nitrogen base is attached to carbon no. 1 of sugar by _____ bond.
 (a) glycosidic (b) hydrogen (c) phosphodiester (d) phosphate
- (vi) During biogas production microorganism used to bring about the anaerobic digestion is _____.
 (a) *Pseudomonas* (b) *Rhizopus*
 (c) *Methanococcus* (d) *Methanobacillus*
- (vii) A wheat variety resistant to hill bunt disease is _____.
 (a) Pusa Shubhra (b) Himgiri
 (c) Pusa Gaurav (d) Pusa Sawani

Q.2. (A) Answer in 'ONE' sentence each :

(6) [12]

- Define the term 'leaching'.
- Give reason – 'Buttermilk is used in the dough of dhokla.'
- What is palindrome in DNA ?
- What is biomagnification ?
- Give application of mutation breeding.
- What will be the length of eukaryotic DNA segment having 10 pairs of nucleotides ?

Q.2. (B) Draw a neat labelled diagram of the hair pin model of t-RNA.

(2)

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