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Your Roll No.....

Sr. No. of Question Paper : 7047
 Unique Paper Code : 2162581101
 Name of the Paper : Microbial World and Plant Diversity
 Name of the Course : B. Sc. ALS with Agro-Chemicals and Pest Management
 Semester : I
 Duration : 2 Hours
 Maximum Marks : 60

Instructions for Candidates:

1. Write your Roll No. on the top immediately on receipt of this question paper.
2. Attempt Four questions in all including Question No. 1, which is compulsory.
3. All questions carry equal marks.
4. Attempt all parts of the question together.

Q1. (a) Fill in the blanks (Any Five): (1×5=5)

- i. The two prokaryotic kingdoms in the six-kingdom system are _____ and _____.
- ii. The small circular DNA present in bacteria apart from the main chromosome is called a _____.
- iii. In the lytic cycle, the host cell _____ after releasing newly formed phages.
- iv. *Agaricus* produces spores on radiating plates called _____.
- v. The sexual reproduction in bryophytes is always an advance.....type.
- vi. The cells of *Polysiphonia* are interconnected by _____ connections.

(b) Define the following (*any five*): (1×5=5)

- (i) Siphonostele
- (ii) Elaters
- (iii) Gemma Cup
- (iv) Plakea stage
- (v) Strobilus
- (vi) Foliage leaves

(c) Indicate whether the following statements are true or false (*any five*): (5×1=5)

- (i) Gymnosperms produce seeds that are enclosed within a fruit.
- (ii) Natural system of classification considers a wide range of morphological and anatomical characters.
- (iii) Bryophytes are more advanced than pteridophytes in evolutionary terms.
- (iv) *Penicillium* plays an important role in food spoilage and antibiotic production.
- (v) *Lee's* classification is based solely on the morphology of algae without considering evolutionary features.
- (vi) Archaeobacteria are known to thrive in extreme environments.

Q.2 Differentiate between the following (*any three*): (3×5=15)

- (i) Haplontic and Diplobiontic alternation of generations
- (ii) Generalized and specialized Transduction.
- (iii) Smooth walled and tuberculated rhizoids.
- (iv) Male cone and Female cone of *Pinus*

Q3. Write short notes on the following (*any three*): (3×5=15)

- (i) Artificial system of angiosperm classification and its limitations.
- (ii) Evolutionary trends observed in bryophytes.
- (iii) Darwin theory of Evolution
- (iv) L- form of bacteria.

Q4. Draw well labelled diagram of the following (*any three*): (5×3=15)

- (i) Structure of TMV
- (ii) T.S. needle of *Pinus*
- (iii) Carposporophyte of *Polysiphonia*
- (iv) Internal structure of *Marchantia* thallus

- Q5. (a) What are the different ways by which bacteria can transfer genetic material and briefly describe any one of those processes. (5)
- (b) Describe the asexual reproduction in *Volvox*. (5)
- (c) What are the affinities between gymnosperms and pteridophytes? (5)