

22495

24225

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks**1. Solve any FIVE of the following :****10**

- (a) Define Environmental Microbiology.
- (b) List the common microorganisms found in the nature.
- (c) Define Auxochrome and Chromophore.
- (d) Name any four waterborne diseases.
- (e) State the composition of atmosphere.
- (f) Define Magnification and Resolving Power.
- (g) State the type of chemical reactions commonly occurring in environment.

2. Solve any THREE of the following :**12**

- (a) Describe the types of microbial association found in the nature with suitable examples.
- (b) Outline the construction and working principle of compound microscope.
- (c) Describe the types of media and write its significance.
- (d) Describe the significance of microorganisms on environment.



- 3. Solve any THREE of the following : 12**
- (a) Differentiate between Disinfection and Sterilization.
 - (b) Explain the various steps in sewage treatment process.
 - (c) Explain the methods of Isolation of pure culture.
 - (d) Describe the objectives of staining.
- 4. Solve any THREE of the following : 12**
- (a) Explain the types of pollution with its impacts.
 - (b) Differentiate between absorption and adsorption.
 - (c) Describe the principles of chemistry for solving environment engineering problems.
 - (d) Explain the various types of Sewage.
- 5. Solve any TWO of the following : 12**
- (a) Illustrate Bacteriological analysis of water for coliforms by MPN Test.
 - (b) Explain various methods of corrosion control.
 - (c) Explain catalysis and photo-catalysis with suitable examples.
- 6. Solve any TWO of the following : 12**
- (a) Differentiate between primary and secondary pollutants.
 - (b) Explain Photochemical smog with its causes and effects.
 - (c) Explain causes, effects and control measures of Green House effect.
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