

Day : Monday
Date : 30/10/2017

Time : 03.00 PM TO 06.00 PM
Max. Marks : 60

W-2017-0 559

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.

Q.1 A) Select the correct option and rewrite the sentences: [06]

- a) Lichen is an example of _____.
 - i) Antagonism
 - ii) Commensalism
 - iii) Mutualism
 - iv) Antibiosis
- b) The enzyme which mediates bioluminescence is called as _____.
 - i) Catalase
 - ii) Coagulase
 - iii) Gelatinase
 - iv) Luciferase
- c) Common bacterium used for controlling insect pests in agricultural field is _____.
 - i) *E. coli*
 - ii) *Bacillus thuringiensis*
 - iii) *Bacillus coagulans*
 - iv) *Bacillus licheniformis*
- d) *Thermus aquaticus* is an example of _____.
 - i) Psychrophile
 - ii) Mesophile
 - iii) Thermophile
 - iv) Barophile
- e) Therapy using viruses which kills antibiotic resistant pathogens is called as _____.
 - i) Chemotherapy
 - ii) Hydrotherapy
 - iii) Immunotherapy
 - iv) ESKAPE Therapy
- f) Bacteria which grow best at high salt concentration are called as _____.
 - i) Thermophiles
 - ii) Psychrophiles
 - iii) Halophiles
 - iv) Barophiles

B) Attempt the following: [06]

- a) Give any four examples of microorganisms to be used as biofertilizers.
- b) Which biochemical compound of *Pseudomonas fluoresces* inhibit the growth of plant pathogens?
- c) Give any two examples of waterborne transmission of disease.
- d) What is HEPA filter? Give its use.
- e) Give significance of Thermophiles.
- f) Define the term 'Bioterrorism'.

P.T.O.

Q.2 Write short notes on **ANY THREE** of the following: [12]

- a) Commensalism
- b) Oxidation lagoons
- c) Significance of air microorganisms
- d) Barophiles

Q.3 Attempt **ANY FOUR** of the following: [12]

- a) Give the role of *Pseudomonas fluorescens* in plant protection.
- b) Write factors regulating microflora of soil.
- c) Explain laboratory control of air contaminants using ultraviolet radiations.
- d) What are Psychrophiles? Give their significance.
- e) Enlist the microorganisms representing ESKAPE therapy.

Q.4 Attempt **ANY TWO** of the following: [12]

- a) With suitable examples explain 'Antagonism'.
- b) Explain the factors affecting distribution of microorganisms in aquatic environment.
- c) What are 'Alkalophiles'? Giving suitable examples explain their importance.

Q.5 Attempt **ANY TWO** of the following: [12]

- a) Describe the phenomenon of bioluminescence by marine bacteria and mention its significance in aquatic environment.
- b) Discuss the construction and working of 'Laminar air flow'.
- c) Explain the role of microbes for controlling 'oil spill'.

* * * *