

F.Y.B.SC. SEM – II (CBCS - 2016 Course) : WINTER - 2018
SUBJECT: MICROBIOLOGY: THE DIVERSITY OF MICROBIAL WORLD

Day : Monday
Date : 15/10/2018

W-2018-0698

Time: 03.00 P.M. To 06.00 P.M
Max. Marks: 60

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) Relationship between microorganisms in which one of the partners get benefited and another is not affected is called as -----
 - i) commensalism
 - ii) antagonism
 - iii) parasitism
 - iv) mutualism
- b) At night certain fishes emits colored light due to -----
 - i) fermenting bacteria
 - ii) bioluminescent bacteria
 - iii) photosynthetic bacteria
 - iv) heterotrophic bacteria
- c) Multidrug resistant microorganisms which generally develop hospital borne infections are called as -----
 - i) ESCAPE pathogens
 - ii) ESKAPE pathogens
 - iii) ESCUPE pathogens
 - iv) ESCOPE pathogens
- d) -----is used for the intentional spread of the disease in society.
 - i) *Clostridium botulinum* (toxin)
 - ii) *E. coli*
 - iii) *Staphylococcus albus*
 - iv) *Micrococcus luteus*
- e) Shallow pits used for aerobic digestion of sewage are called as -----
 - i) fermentor
 - ii) septic tank
 - iii) Imhoff tank
 - iv) oxidation lagoons
- f) Organisms which grows best at low temperature are called as -----
 - i) mesophiles
 - ii) thermophiles
 - iii) psychrophiles
 - iv) acidophiles

B) Attempt the following: (06)

- a) Give any two examples of organisms which justifies mutualism.
- b) Which enzyme regulates bioluminescent property of bacteria ? Give any two examples of bioluminescent bacteria.
- c) Mention any two technical difficulties for the use of viruses that kill superbug.
- d) Give any two examples of indicator pathogens of water pollution.
- e) Define the term mesophile and mention any two examples.
- f) What are droplets and droplet nuclei ?

P.T.O.

Q.2 Write short notes on **ANY THREE** of the following: (12)

- a) Antagonism
- b) Water borne transmission of diseases
- c) Mesophiles
- d) Barophiles

Q.3 Attempt **ANY FOUR** of the following: (12)

- a) Explain the nature of pesticidal toxin produced by *Bacillus thuringiensis* and mention any two examples of target pests.
- b) What is oil spill ? Enlist obligate hydrocarbon degraders used for control of oil spill.
- c) Explain principle of laminar air flow.
- d) What is nitrogen fixation ? Give any two examples of bacteria which serve of as biofertilizers.
- e) What are 'Halophiles' ? Give any two examples halophiles.

Q.4 Attempt **ANY TWO** of the following: (12)

- a) Explain the use of *Pseudomonas fluorescense* in plant protection.
- b) Define the term thermophile and explain the mechanism of thermotolerance.
- c) Explain the laboratory control of air contaminants by ultraviolet radiation. Mention the limitations of the method.

Q.5 Attempt **ANY TWO** of the following: (12)

- a) What are acidophiles ? Explain the uses of acidophiles.
- b) Giving suitable examples discuss microflora of soil.
- c) Explain the use of microbes in bioterrorism.

* * * * *