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Total No. of Pages : 02

Total No. of Questions : 18

**B.Tech. (BT) (2012 to 2017 EL) (Sem.-7)**  
**ENVIRONMENTAL BIOTECHNOLOGY**  
Subject Code : BTBT-907  
M.Code : 71853

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTIONS TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

**SECTION-A****Answer briefly :**

1. What is the application of a trickling filter?
2. Explain difference between biodegradation and biotransformation.
3. What are catalytic antibodies?
4. Explain the use of *mycorrhizae* in reforestation.
5. What are biopesticides? Give examples.
6. What is the role of microbes in mining?
7. How do GEM is useful in treating oil spills?
8. What do you understand by germplasm conservation?
9. What are landfills and its importance ?
10. What do you understand by Red data book?

**SECTION-B**

11. Discuss the basic principle of activated sludge process and also explain the design criteria. Draw a flow sheet of it.
12. Define Bioremediation? Discuss the different process strategies for bioremediation by using microbes.
13. Explain in detail the metabolic pathway for the degradation of polycyclic aromatic hydrocarbons.
14. What is Biogas? What are the different types of substrates and digesters used for the production of biogas?
15. Explain the kinetics and thermodynamic of microbial process during the transformation of environmental contaminants

**SECTION-C**

16. Discuss the use of different types of microorganisms for improving the quality of soil fertility.
17. Write explanatory notes on :
  - a) India as a mega-diversity nation
  - b) Plasmid borne metabolic activities
18. Explain in detail the microbial degradation of halogenated and sulfonated compounds?

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**