

M.Sc. Semester-3 Examination

502

Microbiology

March-2024

Time : 2-30 Hours]

[Max. Marks : 70

- Q-1 Explain different parts of Biosensor and write on any two different biosensors in detail. 14
- OR
- Q-1 A Write a note on Biomarkers and their objectives. 07
B Describe selection criteria for Bioindicators and explain terrestrial invertebrates as bioindicators 07
- Q-2 Describe in detail the activated sludge process and its modifications. 14
- OR
- Q-2 A Describe the chemical and biological characteristics of wastewater. 07
B Write a short note on 'trickling filters'. 07
- Q-3 Describe the degradation of aliphatic saturated and unsaturated linear hydrocarbons. 14
- OR
- Q-3 A Explain the degradation of Aromatic Hydrocarbons. 07
B Write a note on monooxygenases and how they play a key role in the degradation of hydrocarbons. 07
- Q-4 Discuss the biodeterioration of wood, mechanisms, prevention, and control citing suitable examples. 14
- OR
- Q-4 A Describe the basic methodology used to assess biodeterioration. 07
B Discuss the role of biocides in controlling biodeterioration with examples. 07
- Q-5 Write the answer in brief of **any seven** of the followings 14
- 1 Assimilatory biodeterioration.
 - 2 Which act does not fall within the jurisdiction of the National Green Tribunal?
 - 3 Hardness of water.
 - 4 Mechanism for wool biodeterioration.
 - 5 Fluidized bed reactor
 - 6 What is high dose and low dose in chronic toxicity testing?
 - 7 What are CYPs?
 - 8 Give the full name of pesticide 2,4-D and draw its structure.
 - 9 Write the significance of catechol in the degradation pathways of aromatic hydrocarbons.
 - 10 Define biomarkers and give examples of the same
 - 11 What is ThOD?
 - 12 Give examples of microbes causing soft rot on wood