

M.Sc. (Biotechnology) (NEP Pattern) Semester-IV  
**STPG04BTH002 - Applied Environmental Biotechnology and Ecology**

P. Pages : 1

Time : Three Hours



**GUG/S/25/16312**

Max. Marks : 80

- 
- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw well labelled diagrams wherever necessary.

**1.** Describe in detail techniques to detect fecal from non-fecal bacteria by IMViC test. **16**

**OR**

- i) Describe in detail measurement of water pollution by BOD methods. **8**
- ii) Describe in detail Detection of pathogenic organism by MTFT methods. **8**

**2.** Describe in detail biological waste water treatment by activated sludge and trickling filter.

**OR**

- i) Describe classification and types waste water treatment. **8**
- ii) Discuss in detail waste water treatment by biofilms. **8**

**3.** Describe in details bioleaching of heavy metals and discuss its advantages and disadvantages. **16**

**OR**

- i) Give the account of xenobiotics in environment. **8**
- ii) Discuss in detail biomethylation of elements. **8**

**4.** Describe in detail biotechnological methods of conservation by cryopreservation and micropropagation. **16**

**OR**

- i) Discuss in detail ecological aspects of mining. **8**
- ii) Give the account of wildlife management. **8**

**5.** Write in short all compulsory.

- i) Write on composition of waste water. **4**
- ii) Note on tannery. **4**
- iii) Note on pesticides. **4**
- iv) Discuss deforestation. **4**

\*\*\*\*\*