|  |  |  |
| --- | --- | --- |
| Register Number:  DATE: 21-04-2017  **col LOGO outline**  **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27** | | |
| **M.Sc. MICROBIOLOGY – II SEMESTER** | | |
| **SEMESTER EXAMINATION: APRIL 2017** | | |
| **MB DE 8616: Environmental Microbiology** | | |
| Time- 2 ½ hrs Max Marks-70 | | |
|  |  |  |
| **This paper contains 1 printed page and four parts** | | |

I. **Answer any Five of the following: 5x3=15**

1. Define Eutrophication and give its implications.
2. Explain thermocline with example.
3. Write a note on the Burkard Sampler.
4. How are PCBs degraded aerobically?
5. What is a pollen calendar? Give its importance.
6. Write a note on Denitrification.
7. How are biosensors used in assessing the environment?

II. **Answer any Five of the following: 5x5=25**

1. Explain the food chain seen in freshwater ecosystems.
2. Write notes on any two air borne diseases and discuss their etiologies in brief.
3. What is ground water? How does ground water get polluted?
4. Explain the mechanism of type 1 Hypersensitivity Reaction.
5. What is acid rain? Write a note on the effects of acid rain on the environment.
6. Write a note on vermicomposting.
7. Diagrammatically explain the cyclic conversion of one form of carbon to another form in detail.

III. **Answer any Two of the following: 2x10=20**

1. Write a detailed note on preliminary and primary treatment of waste water.
2. Describe zonation in various aquatic ecosystems.
3. A. Explain the aerobic degradation of DDT.

B. How does Bioaccumulation happen? How does it affect human

health?

IV. **Answer the following: 1x10=10**

1. A new research student has been asked to design an experiment to remediate soils which are heavily contaminated with Cadmium. Help him design a detailed experiment and how can the researcher maximize the efficiency of the process with very less waste generated.

MB-DE-8616