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| **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU-27** |
| **M.Sc. MICROBIOLOGY – II SEMESTER** |
| **SEMESTER EXAMINATION: APRIL 2019** |
| **MBDE 8618: Environmental Microbiology** |
| Time- 2 ½ hrs Max Marks-70 |
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| **This paper contains 1 printed pages and 4 parts** |

I. **Answer any Five of the following: 5 X 3 =15**

Register Number:

**Date: 22-04-2019**

1. Explain the mode of active dissemination of pollen giving one example.
2. Expand the abbreviations- i) ETEC, ii) MLSS and iii) DDT
3. List out various zones of a River ecosystem.
4. What is meant bySide effect testing?
5. Explain the reaction representing formation of Acid rain.
6. Write what reaction the arrows depict and provide one example of an organism responsible for the reaction.

H2S SO42-

1. List the parameters of ISI for potable water.

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

1. Write a brief note on the Nitrogen cycle.
2. Describe the Burkard sampler with a diagram.
3. Give an account of Tertiary treatment of Waste water.
4. How can you test if an individual is allergic to a compound or not? Explain.
5. Explain bioleaching of ores. How is it better than traditional leaching methods?
6. Elucidate the concerns and explain treatment of waste waters of leather industry.
7. Discuss the difficulties related to degradation of Synthetic Plastic and explain its Biodegradation.

III. **Answer any Two of the following: 2 X 10 =20**

1. A. Write a detailed prognosis ofPertussis. Explain how it can be treated. What vaccines are available for Pertussis? (7)

B. Give the causative agent and symptoms of Mumps. (3)

1. A. Composting is an effective method for managing human waste. Explain. (7)

B. What is phylloremediation? (3)

1. What is bioremediation? Explain the Ex-situ methods. List some shortcomings of bioremediation?

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

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stool sample was analyzed and it was found to have oocysts containing 4

sporozoites. What infection does he have? Elaborate about the pathogen and

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1. A patient came to the hospital complaining of large amounts of diarrhea, Lack of appetite, Stomach cramps, Fever and Nausea. His stool sample was analyzed and it was found to have oocysts containing 4 sporozoites. What infection does he have? Elaborate about the pathogen and give the treatment.