**ST. JOSEPH’S COLLEGE (AUTONOMOUS), BENGALURU -27**

Registration Number:

Date & Session:13-12-2022 (9am)

**B.Sc. (ENVIRONMENTAL SCIENCE) – III SEMESTER**

**SEMESTER EXAMINATION: OCTOBER 2022**

**(Examination conducted in December 2022)**

**ES 322 – Environmental Microbiology and Environmental Biotechnology**

**Time: 2 Hours Max Marks: 60**

**This paper contains one printed page and three parts**

**PART-A**

**Answer any SIX of the following 6x2=12**

1. What is a droplet infection?
2. What are biofilms?
3. What is a phylogenetic tree?
4. What are rhizosphere microflora?
5. What are transgenic plants? Give an example.
6. What is ammensalism? Give an example.
7. Differentiate between oxidation pond and oxidation ditch.

**PART- B**

**Write explanatory notes on any FOUR of the following 4x7=28**

1. Whittaker’s five kingdom classification
2. Sick Building Syndrome
3. Upflow Anaerobic Sludge Blanket digesters
4. Nitrogen cycle
5. Biosensors
6. Positive and negative microbial interactions
7. Biodegradation of DDT

**PART- C**

**Answer ALL the questions 2x10=20**

1. With a neat sketch, explain the bio-leaching of copper from a low-grade ore.

**OR**

 With a sketch, explain mechanism of Activated Sludge Process.

1. Explain role of biotechnology in the conservation of Biodiversity.

**OR**

With the help of a sketch, explain phosphorous cycle.