

MSc Part 1 Semester II
Environmental Microbiology Revision Assignment

- Q1. What are oligotrophs? What are their characteristic features?
- Q2. Graphically represent growth pattern of an oligotroph vs copiotroph as a function of nutrient availability.
- Q3. Enlist at least any two adaptation of an oligotroph.
- Q4. Explain any two molecular adaptations of a cold adapted bacterium.
- Q5. Write any one interesting fact about following extremophiles
- a. *Sphingomonas* sp.
 - b. *Picrophilus torridus*
 - c. *Euglena mutabilis*
 - d. *Cupravidus metallidurans*
- Q6. Give an example of a man-made acidic environment.
- Q7. What is a microbial fuel cell?
- Q8. Explain use of an alkalophile/halophile in microbially enhanced oil recovery.
- Q9. Explain molecular adaptation of an alkalophile under following headings
- a. Modification of cell wall
 - b. pH homeostasis
- Q10. How was *Deinococcus radiodurans* discovered? What are its key features which make it the hardest organism on earth?
- Q11. Explain molecular adaptations of hyperthermophile under following headings
- a. Protein
 - b. DNA
 - c. Membrane
- Q12. What is Bst polymerase?