

Part –A answer any five of following.

[05]

- Q.1 Which of the following bacteria is involved in Trickling filtration process?
- (a) *S.aureus* (b) *Zooglea ramigera*
(c) *Bacillus spp.* (d) None of the above
- Q.2 In which reaction the *Nitrogenase* is involved?
- (a) NH_3 to N_2 (b) N_2 to NH_3
(c) N_2 to NO_2^- (d) NO_3^- to NO_2^-
- Q.3 Which of the following is not a method of secondary treatment of waste water?
- (a) Oxidation ponds (b) Trickling filter
(c) Activated sludge (d) Septic tank
- Q.4 Lichens is an example of
- (a) Mutualism (b) Positive interaction
(c) Amenslism (d) a & b
- Q.5 Following are the indicators of strength of waste water except
- (a) BOD (b) COD
(c) Total organic carbon (d) a, b and c
- Q.6 Which of the following is not involved in secondary treatment of waste water?
- (a) *Beggiatoa alba* (b) *Sphaerotilus spp.*
(c) *Rhizobium spp.* (d) *Flavobacterium*

PART-B Answer any five of following.

[05]

- Q.7 Enlist various types of waste water.
- Q.8 Give Full form of IMVic
- Q.9 Define: Potable water

- Q.10 Define: Neutralism
Q.11 What is predation?
Q.12 What are nuisance bacteria?
Q.13 Define: Disinfection

PART-C Answer any **three** of the following. [06]

- Q.14 Draw labelled diagram of Imhoff tank
Q.15 What is humus? Mention role of it in soil fertility.
Q.16 Which bacteria involved in making whitish and black biofilm in rotating biological contactor?
Q.17 Give examples of parasitism in microbes.
Q.18 Give examples of N₂ fixing bacteria

PART-D Answer any **four** of the following. [12]

- Q.19 Describe any one method for studying soil microflora
Q.20 Explain effects of plant root on microbial population
Q.21 Draw labelled diagram of typical sewage treatment plant
Q.22 Explain the term: Sedimentation, COD, Rhizosphere effect
Q.23 Note on oxidation pond.
Q.24 Explain competition as negative interaction

PART-E Answer any **two** of the following. [12]

- Q.25 Explain Nodule formation in leguminous plant
Q.26 Give composition of soil
Q.27 Short note on composting
Q.28 Describe activated sludge process.

-: Best of Luck :-