D 51262 (Pages : 3) Name.....

Reg. No.....

THIRD SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018

(CUCBCSS—UG)

Core Course

MBY 3B 04—ENVIRONMENTAL AND SANITATION MICROBIOLOGY

Time : Three Hours Maximum : 80 Marks

Section A

Answer **all** *questions.*
Each question carries ½ mark.

1. Anaerobic biodegradation of PCBs is carried out by the fungus.

   (a) *Phanaerochaete* sp. (b) *Mucor* sp.

   (c) *Acinetobacter* sp. (d) *Fusarium* sp.

2. A Waterborne viral pathogen is :

   (a) Hepatitis B Virus. (b) Hepatitis A Virus.

   (c) Influenza Virus. (d) Pox Virus.

3. ———— is a fungal strain that can mobilize metals and can used for bio-leaching.

   (a) *Aspergillus Niger.* (b) *Rhizopus Stolonifer.*

   (c) *Alternaria Alternata.* (d) *Trichoderma Viridae.*

4. A media used to differentiate *E.coli* and *Enterobacter.*

   (a) Deoxycholate Citrate Agar. (b) Mac Conkey's Agar.

   (c) Eosine Methylene Blue Agar. (d) Blood Agar.

5. ———— is a recyling method that uses earthworms to consume and process organic wates.

6. ———— formation caused by filamentous fungi and bacteria results in unsatisfactory floe formation and settling in activated sludge processing.

7. The bacteria producing ———— enzyme transform Hg^{2+} to $CH_3{}^{-}Hg^{+}$.

8. ———— oily fluids used as Plasticizers and Polyvinyl Polymers.

9. Non-biodegradable, pollutants persist in the environment is called ————.

Turn over

10. Form of water pollution resulted from nutrient run off from fields is called ———.

11. Name an organism corroding iron pipes in oil industry.

12. Name the organism called as 'Sulfur Pearl of Namibia'.

(12 × ½ = 6 marks)

Section B

Answer **all** *questions.*
Each question carries 2 *marks.*

13. Aerosols.

14. Burkard Spore Trap.

15. Colilert defined substrate test.

16. Biofilm.

17. Nanobacteria.

18. Nitroaromatic Compounds.

19. Biofilters.

20. *Pseudomonas Putida.*

21. Land Fills.

22. Coliform Bacteria.

(10 × 2 = 20 marks)

Section C

Answer any **six** *questions.*
Each question carries 5 *marks.*

23. Andersen Sampler.

24. Vermi Composting.

25. Disease forecasting in plants.

26. Synthetic Polymers.

27. Heavy metal tolerance in micro-organisms.

28. Multiple tube fermentation test.

29. Composting.

30. Bioremediation of oil spills.

(6 × 5 = 30 marks)

Section D

Answer any **two** *questions.*
Each question carries 12 *marks.*

31. Define Sewage. Describe various methods used for Sewage treatment.

32. Describe different layers of atmosphere. Discuss sources and distribution of air microflora.

33. Discuss the mechanisms of methanogenesis. Add a note on design and management of a biogas plant.

(2 × 12 = 24 marks)