D 50854 **(Pages : 2)** **Name**

Reg. No.....

FIFTH SEMESTER B.Sc. DEGREE EXAMINATION NOVEMBER 2013

(UG – CCSS)

Microbiology [Core Course]

MB 5B 14 – ENVIRONMENTAL AND SANITATION MICROBIOLOGY

Time : Three Hours Maximum : 30 Weightage

Section A

Answer all the **twelve** *questions.*

1. Nitrate oxidising bacteria are ————
2. Example for a non-symbiotic nitrogen fixer is _____
3. Over growth of **phytoplankton** leads to the phenomenon of ————
4. Nitrogen fixing stage of **Rhizobium** is ————
5. **Rhizosphere** effect is a type of ————interaction.
6. ————has been used for centuries to enrich rice paddies.
7. Compound that transports iron into bacterial cell are known as ————
8. Anaerobic method of composting of waste products is ————
9. The method of extraction of metal from its ore is called ————
10. Indicator organisms of fecal contamination is _____
11. Composting is a method of ————management.
12. ***Rhizobium*** is an example of _____ nitrogen fixation.

(12 x ¼ = 3 weightage)

Section B

Answer all the **nine** *questions in one* **or** *two sentences.*

Comment on :

13. **Biomagnification.**
14. Humus.
15. Droplet nuclei.

Turn over

16. Potability of water.
17. Methanogens.
18. Mutualism.
19. Heterocyst.
20. Hydrosphere.
21. Membrane filters.

(9 x 1 = 9 weightage)

Section C

Answer briefly any **five** *questions.*

22. COD.
23. Carbon cycle.
24. Non-symbiotic Nitrogen fixers.
25. Estuarine water systems.
26. Water purification.
27. Aerobic microbial composting.
28. Activated sludge treatment.

(5 x 2 = 10 weightage)

Section D

Answer any two questions in detail.

29. Elaborate on the principle and procedures of microbial analysis of water.
30. Describe in detail the design, process and management of **biogas** plant with reference to the role of micro-organisms involved,
31. Explain in detail about the plant microbe interactions, its merits and demerits.

(2 x 4 = 8 weightage)