

D 73738

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Name

Reg. No. ....

FIRST SEMESTER B.Sc. DEGREE (SUPPLEMENTARY/IMPROVEMENT)  
EXAMINATION, NOVEMBER 2014

(UG-COSS)

Complementary Course

Biotechnology

BT IC 02—ENVIRONMENTAL BIOTECHNOLOGY

Time : Three Hours

Maximum : 30 Weightage

I. Objective type questions. Answer all *twelve* questions :

A. Name the following :-

- 1 Iron bacteria.
- 2 Indicator used in **YEMA** media.
- 3 Symbiotic nitrogen fixer in non leguminous plant.
- 4 A phosphate ~~solubilising~~ **solubilising** fungus.
- 5 Enzymes used in cellulose degradation.
- 6 Example for a differential media.

B. Match the following :-

- |                                    |   |
|------------------------------------|---|
| 7 <i>Rhizobium</i>                 | Sulphur oxidising bacteria.             |
| 8 <i>Pseudomonas striata</i>       | Indicator bacteria.                     |
| 9 <i>Clostridium pasteurianum</i>  | Symbiotic nitrogen fixing bacteria.     |
| 10 <i>Thiobacillus thiooxidans</i> | Iron bacteria.                          |
| 11 <i>Gallionella</i>              | Anaerobic nitrogen fixing bacteria.     |
| 12 <i>E.Coli</i>                   | Phosphate <b>solubilising</b> bacteria. |

(12 x  $\frac{1}{4}$  = 3 weightage)

II. Short answer type questions (Answer all *nine* questions) :

- 13 **Bacteriod.**
- 14 **Bioaccumulation.**
- 15 **Lamarkism.**
- 16 *in situ* **bioremediation.**
- 17 **Methanogenesis.**

Turn over

- 18 Composting.
- 19 MR VP Test.
- 20 Sedimentation.
- 21 Lichens.

(9 x 1 = 9 weightage)

III. Short essay or paragraph questions. (Answer any *five* from seven) :

- 22 Isolation of nitrogen fixing bacteria from root nodules of leguminous plants.
- 23 Standard plate count of water sample.
- 24 Sulphur cycle.
- 25 Confirmatory test.
- 26 Water pollution indicators.
- 27 Commensalism.
- 28 Structure and functions of ecosystem.

(5 x 2 = 10 weightage)

IV. Essay questions. (Answer any *two* from three) :

- 29 Biochemistry and genetics of biological nitrogen fixation.
- 30 Role of environmental microbiology in environmental protection.
- 31 Role of earthworms in waste disposal and **biomagnification** of nutrients.

(2 x 4 = 8 weightage)