

C 62733

(Pages : 2)

Name.....

Reg. No.....

**SECOND SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2014**

(UG—CCSS)

Complementary Course—Biotechnology

BT 2C 02—ENVIRONMENTAL BIOTECHNOLOGY

Time : Three Hours

Maximum : 30 Weightage

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

A. Multiple choice :

1 Earthworm used in vermin composting :

- (a) *Lumbricus rubellus*. (b) *Eisenia foetida*.  
(c) *E. buchholzi*. (d) All of the above.

2 Cry protein is produced by :

- (a) *B. cereus*. (b) *B. subtilis*.  
(c) *B. thuringiensis*. (d) *B. stearothermophilus*.

3 Which of the following have NOT been used in various bioconversions ?

- (a) Unicellular bacteria. (b) Actinomycetes.  
(c) Molds. (d) Viruses.

4 "Superbug" was a name coined for organisms engineered for :

- (a) Antibiotic production. (b) Probiotic production.  
(c) Hydrocarbon degradation. (d) Enzyme production.

B. Fill in the blanks :

- 5 Ozonation of water is an example of \_\_\_\_\_.  
6 A nitrogen fixing symbiotic bacteria is \_\_\_\_\_.  
7 APHA stands for \_\_\_\_\_.  
8 Enzyme used in cellulose degradation.

C. Name the following :

- 9 Major component of biogas.  
10 Name an organism used for bioleaching of iron.  
11 A bacterial pesticides.  
12 Name an acetogenic bacteria.

(12 × ¼ = 3 weightage)

**Turn over**

II. Short Answer type questions. Answer all *nine* questions :

- |                           |                    |
|---------------------------|--------------------|
| 13 Methanogenesis.        | 14 Biodiesel.      |
| 15 BOD.                   | 16 Biopesticide.   |
| 17 Packed column reactor. | 18 Bioscrubber.    |
| 19 Activated sludge.      | 20 Eutrophication. |
| 21 Biosorption.           |                    |

(9 × 1 = 9 weightage)

III. Short Essay or Paragraph questions. Answer any *five* questions :

- 22 Write an account on the process of bioleaching.
- 23 Management of lignocellulose residues.
- 24 Biofertilisers production and applications.
- 25 Anaerobic methods for waste water treatment.
- 26 Biogas production.
- 27 Biofilters.
- 28 Compare contact digestors and packed column reactors.

(5 × 2 = 10 weightage)

IV. Essay questions. Answer any *two* questions :

- 29 Explain microbial technologies used for the bioremediation of xenobiotics.
- 30 Describe the management of solid waste as a source of energy.
- 31 Detail microbiology and biochemistry of waste water treatment.

(2 × 4 = 8 weightage)