

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL/MAY 2015

(UG—CCSS)

Complementary Course—Biotechnology**BT 4C 02—ENVIRONMENTAL BIOTECHNOLOGY**

Time : Three Hours

Maximum : 30 Weightage

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

A. Name the following :-

- 1 Attached growth reactors for oxidation and nitrification.
- 2 Spent liquor from paper pulping industries.
- 3 The white rot fungus used for degradation of lignocellulosic materials.
- 4 Barley partially germinated and heat treated is called this.
- 5 This is measured by the oxidation of organic matter with $K_2Cr_2O_7$ in the presence of H_2SO_4 and silver.
- 6 An organism for commercial production of PHB.

B. **True** or False :

- 7 Plumbism is not due to heavy metal toxicity.
- 8 Oil spills are only caused by Tanker collision accidents – False.
- 9 In fluidized bed reactors the temperature is more or less uniform.
- 10 *Thiobacillus ferrooxidans* is used to oxidise both sulfur and iron.
- 11 *Senedesmus* is not used as SCP.
- 12 *Streptococcus faecalis* is an indicator of sewage pollution in water.

(12 x $\frac{1}{4}$ = 3 weightage)II. Short answer type questions. Answer any *nine* questions. Each question carries 1 weightage :

- 13 Biomagnifications and bioaccumulation.
- 14 Xenobiotics.
- 15 Aquatic plants in waste treatment.
- 16 Heavy metal pollutants.
- 17 Sources of pollution.
- 18 Bioremediation.
- 19 Spirulina.
- 20 Waste sulfite liquor.
- 21 Treatments for tannery effluents.

(9 x 1 = 9 weightage)

Turn over

III. Short essay *or* Paragraph questions. Answer any *five* questions. Each question carries 2 weightage

22 Microbial transformation of pesticides.

23 SCP in aquaculture.

24 PHAs.

25 Impact of tannery effluents.

26 Aquatic plants in waste treatments.

27 Treatment technologies of dyes.

28 Sources of pollution.

(5 x 2 = 10 weightage)

IV. Essay questions. Answer any *two* questions. Each question carries 4 weightage

29 Bioscrubbers.

30 Bioplastics.

31 Immobilization of enzymes.

(2 x 4 = 8 weightage)