

**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)