(A-7) Seat NO: _____ No. of Printed Pages : 2

SARDAR PATEL UNIVERSITY

B.Sc EXAMINATION, 5TH SEMESTER (NC)

Saturday, 14th May, 2016

Time: 10:30 Am- 01:30 Pm

US05CBIT-05

(Environmental Biotechnology)

Notes: (1) Figures to the right indicate full marks.
(2) Draw diagram whenever necessary.

Total marks: 70

Q-1 Multiple Choice Questions 10

1. The step in which organic matter is oxidized with the help of microorganism in the effluent treatment plant is _____.
   a) Primary treatment c) Tertiary treatment
   b) Secondary treatment d) None
2. Gravity settling chamber is a control measure for _____ pollution.
   a) Air c) Land
   b) Water d) Noise
3. The optimum pH of acidophilic bacteria of sulpholobus species is ?
   a) 1-2 c) 4-6
   b) 2-3 d) 7
4. Extraction of metals from low grade ores through microorganism is called _____.
   a) Bioleaching c) Biostimulation
   b) Biotransformation d) Bioremediation
5. For the remediation of ground water,_____ method is suitable.
   a) Phytoremediation c) Phyto stabilization
   b) Phytovolatization d) Rhizofilteration
6. _____ mobilized to bones leading fragility of bones due to its similarity with Ca+2 ions.
   a) DDT c) PVC
   b) Mercury d) Lead
7. Thermometric Biosensor are also know n as?
   a) Potentiometer Biosensor c) Calorimetric Biosensor
   b) Thermometric Biosensor d) Conductimetric Biosensor
8. Which does not fulfils the property of biosensor?
   a) Linearity c) Response time
   b) Non specificity d) All of the above
9. Which of the following is a secondary pollutant?
   a) CO c) PAN
   b) CO2 d) Hydrogen sulphide
10. Thiobacillus group of bacteria involved in bioleaching of ores are _____.
    a) Heterotrops c) Chemolithotrops
    b) Autotrops d) All of the above

Q-2 Give specific answers only (any ten) 20

1. Define : BOD and COD
2. What do you mean by Eutrophication.
3. Define : Biohydrometallurgy
4. What do you understand by In-Situ bioleaching?
5. How are Xenobiotic a potential hazards to man and environment?
6. List out the mechanism for biodegradation of pesticides.

(P.T.O.)

7. Explain the term Bioaugmentation and Biostimulation.
8. Give significance of Bioleaching
9. What are thermal biosensor?
10. Give a brief account on components of Biosensor.
11. Give few application of Bioplastic
12. Which technique are involved in Conventional Mining for metallic minerals.

Q-3	A	Discuss the types of pollutants present in atmosphere causing air pollution	06
	B	Write note on TOC	04
		OR	
Q-3	A	Discuss the types causes and effect of soil pollution	06
	B	Write note on UASB	04
Q-4	A	Explain the method and mechanism for bioleaching of copper	06
	B	Give general properties of microorganism involved in leaching.	04
		OR	
Q-4	A	Discuss direct and indirect mechanism for extraction of metals.	06
	B	Write the advantages and disadvantages of Bioleaching.	04
Q-5	A	Give an account of Biomagnifiaction with suitable examples.	05
	B	Discuss advantage and disadvantage of Bioremediation	05
		OR	
Q-5	A	Discuss in detail Ex-situ strategies used for	06
	B	Discuss different type of phytoremediation.	04
Q-6	A	Discuss various types of Biosensor.	10
		OR	
Q-6	B	Discuss various approach used for the production of PHB bioplastic.	10

—— X ——

All the Best