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GAZ-469 Seat No. _____

B. Sc. (Sem. VI) Examination

March / April - 2017

Biotechnology : Paper - XIII

(CC-I-13 : Environmental Biotechnology)

Time : **3** Hours] [Total Marks : **70**

1 (A) MCQ and very short questions **15**

(1) Identify naturally recalcitrant compound

(A) Lignin

(B) Cellulose

(C) Pectin

(D) All

(2) A bacterium is isolated from heavy metal polluted site with possibility of heavy metal degradation/ neutralization. To check and increase its potential its subjected to growth on nutrient media with presence of increasing amount of heavy metal this method is termed as

(A) Genetic engineering

(B) Enrichment method

(C) Direct selection method

(D) None

(3) Biomagnifications is of _____ compounds

(A) Hydrophobic and biodegradable

(B) Hydrophilic and biodegradable

(C) Hydrophobic and non biodegradable

(D) Hydrophilic and non biodegradable

(4) Which petroleum compounds are most difficult to biodegrade ?

(A) Heterocyclic Compounds

(B) Short chain aliphatic

(C) Long chain aliphatic

(D) All

(5) Bacteria that does reductive dechlorination are _____.

(A) Anaerobes

(B) Aerobes

(C) Facultative aerobes

(D) A and B both

(6) Nitrate and phosphate removal from waste water is _____ treatment.

(A) Primary

(B) Secondary

(C) Tertiary

(D) None

(7) According to W.H.O. standard there should not be more than _____ coli form/100ml in potable water.

(A) 1

(B) 2

(C) 10

(D) 100

(8) Azatobacter, Cynobacteria are used for increase in _____ content of soil

(A) Carbon

(B) Potassium

(C) Nitrogen

(D) Phosphorous

(9) A bacteria is introduced to a site, of poliution for treatment of site it is

(A) In situ bioremediation

(B) In vitro bioremediation

(C) Ex situ bioremediation

(D) Ex vivo bioremediation

(10) Which method is most suitable for degradation of xenobioteic compound containing industrial waste

(A) Anaerobic sludge digester

(B) Trickling filter

(C) Oxidation pond

(D) All

(11) Give full form of PHB

(12) Define xenobiotic compound.

(13) What is composing.?

(14) Define BOD

(15) Define eutrophication.

2 Give short note on any **five** of the following **25**

(1) Bioplastics

(2) Management of Solid Wastes

(3) Biotransformation of Haloginated Compounds

(4) Physical, Chemical & Biological properties of waste water.

(5) Explain microbial analysis of water and give importance of indicator organism

(6) Concept and importance of Bioremediation

(7) Biodegradation of Petroleum Hydrocarbons

3 Give detailed note on any there 30

(1) What are recalcitrant compounds? Explain Biodegradation of Aromatic Compounds.

(2) Define Biofertilizers. Write a detailed note on types and importance of Biofertilizers.

(3) Explain primary, secondary & tertiary treatment of waste water.

(4) Write a detailed account on Bioleaching of metal ores.

(5) Explain Biomagnification of pesticides and add a note on Biotransformation of DDT.