



PP-459

Seat No. _____

B. Sc. (Sem. VI) Examination

April / May - 2016

CC - Biotechnology

(Environmental Biotechnology)

Time : 3 Hours]

[Total Marks : 70

1 (a) MCQ : 10

- (1) The complete degradation of compound into its component is
 - (a) Mineralization
 - (b) Transformation
 - (c) Recalcitrance
 - (d) None of these
- (2) The solids left in as residue after heating at 550°C is
 - (a) Volatile solid
 - (b) Fixed solid
 - (c) Suspended solid
 - (d) Total solid
- (3) The metals are _____ during bioleaching.
 - (a) oxidized
 - (b) reduced
 - (c) both (a) and (b)
 - (d) none
- (4) The treatment process which works on the suspended growth.
 - (a) Trickling filter
 - (b) Rotating biological contactors
 - (c) Activated sludge process
 - (d) all of the above.

- (5) Settleable solids can be removed by
- sedimentation
 - filtration
 - reverse osmosis
 - membrane filtration
- (6) Which of the following is a bioplastic?
- PAH
 - PTE
 - FTP
 - PHB
- (7) Which chemical is used for the disinfection of waste water?
- chlorine
 - alcohol
 - ozone
 - phenol
- (8) _____ is the organism not used for bioleaching.
- Lactobacilli
 - Acidodulans
 - Thiobacilli
 - Sulfolobus
- (9) The process of eutrophication is caused because of high level of
- N and P
 - Chlorides
 - Organic Carbon
 - Metals.
- (10) The ration of C:N in appropriate for composting is
- 1:40
 - 40:1
 - 25:1
 - This ratio does not affect composting.

- (b) Give answer in very short : 5
- (1) What is the effect of nitrite on the health ?
 - (2) Define screening.
 - (3) Why coliforms are used as indicator organism ?
 - (4) Name bedding material used in trickling filters.
 - (5) Give the full form of MEQR.
- 2 Give answers in short : (any **five**) 15
- (1) Discuss degradation of PCE.
 - (2) Write the uses of compost.
 - (3) Give the mechanism by which azotobacter prevents its nitrogenase enzyme from oxygen
 - (4) Describe mycorrhiza as biofertiliser
 - (5) Give the names of agencies deciding the drinking water limits for various parameters
 - (6) Define : Biodegradability, Recalcitrant, Xenobiotics
 - (7) Give the schematic representation of PHB (poly hydroxyl Butarate) biosynthesis
- 3 Write note in brief : (any **four**) 20
- (1) Schematically show transformation of DDT to DBP
 - (2) Bioplastic
 - (3) Trickling filter
 - (4) Give reasons : "The waste water requires treatment before disposal
 - (5) Biomagnifications
 - (6) Role of indicator microorganisms

4 Write answer in detail : (any two) 20

- (1) Justify, " Biotechnology is useful in fulfilling increasing demand of metal."
 - (2) Write in detail about the secondary treatment of water.
 - (3) Discuss the Air pollution and its remediation in detail.
 - (4) Write a short note : biofertilisers.
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