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Total No. of Pages : 02

Total No. of Questions : 18

B.Tech. (BT) (2018 Batch) (Sem.-4)
ENVIRONMENTAL BIOTECHNOLOGY
Subject Code : BTBT-408-18
M.Code : 77591

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A**Write briefly :**

- Q1 What is activated sludge process in waste water treatment?
- Q2 What are the characteristics of wastewater?
- Q3 What do you understand by recalcitrance? Give specific examples.
- Q4 What are Xenobiotic compounds? Give examples.
- Q5 Explain the difference between *In-Situ* and *Ex-Situ* conservation.
- Q6 What is Biotransformation? Give examples of it.
- Q7 What are Catalytic Antibodies?
- Q8 What do you understand by Phytoremediation?
- Q9 Define Biopesticides. Substantiate with examples.
- Q10 What are Degradative Plasmids?

SECTION-B

- Q11 Describe the working principal of anaerobic sludge blanket reactor and also explain the design criteria. Draw a flow sheet of it.
- Q12 Explain the process of microbial degradation of halogenated and sulfonated compounds.
- Q13 Explain in detail the methods of germplasm conservation.
- Q14 Describe the mechanism of biohydrogen production and its role as a potential biofuel.
- Q15 Explain the kinetics and thermodynamic of microbial process during the transformation of environmental contaminants.

SECTION-C

- Q16 What is Bioremediation? Explain how micro-organisms play an important role in the restoration of soils contaminated with heavy metals?
- Q17 Write explanatory notes on :
- a) Fluidized Expanded bed reactor
 - b) Bioaugmentation
- Q18 What do you understand by Composting? Describe the various composting technologies of organic waste.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.