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Total Number of Pages : 2

AR-18

B.TECH

B.TECH 3rd SEMESTER EXAMINATIONS, NOV/DEC 2019**BBSHS3061 ENVIRONMENTAL ENGINEERING AND SAFETY**

Common to BIOTECH/CHEMICAL/CIVIL/EE/EEE/MECHANICAL

Time : 3 Hours

Maximum : 100 Marks

Answer ALL Questions

The figures in the right hand margin indicate marks.

PART – A: (Multiple Choice Questions) 10 x 2=20 Mark**Q.1. Answer All Questions**

- a In Water, 1 ppm=mg/l. CO1PO1
 a) 1 b) 10 c) 100 d) 10000
- b Eutrophication is CO1PO1
 a) an improved water quality status of lakes
 b) the result of accumulation of plant nutrients in water bodies
 c) process in the carbon cycle
 d) a water purification technique
- c Which of the following is not a “Primary Consumer”? CO1PO1
 a) Parrot b) Orangutan c) Rabbit d) Hen
- d What are the two most important pollutants measured to analyze domestic sewage CO2PO1
 a) S.S., B.O.D b) D.O., B.O.D. c) Organic matter, Bacteria d) pH, Bacteria
- e “Blue Baby” or “Methemoglobinemia” disease is caused due to CO2PO1
 a) Nitrate b) B.O.D. c) Iron d) Lead
- f Which of the following is a secondary air pollutant? CO3PO1
 a) CO b) CO₂ c) O₂ d) SO₂
- g Septic tank is CO3PO1
 a) an aerobic attached growth treatment system
 b) an aerobic suspended growth biological treatment system
 c) an anaerobic attached growth biological treatment system
 d) an anaerobic suspended growth treatment system
- h The following is not the Hazardous waste treatment method CO3PO1
 a) Landfill treatment b) Physical treatment
 c) Chemical treatment d) Biological treatment
- i Main cause of Bhopal Gas Tragedy CO4PO1
 a) Methane Cyanite b) Methyl Isocyanite
 c) Butane Isocyanite d) Propane Isocyanite
- j Which is not the Hazards CO4PO1
 a) Fire b) Water c) Chemical d) Pharmaceutical

PART – B: (Short Answer Questions) 10X2=20 Marks**Q.2. Answer All questions**

- a State the Classification of Ecosystem? [CO1] [PO1]
- b What do you mean by Soil pollution? What are the Sources? [CO1] [PO1]
- c Explain about the Air pollution Act, 1981? [CO1] [PO1]
- d Express about Types of activated sludge process? [CO2] [PO1]
- e Summarize the methods of Collection of Sewage? [CO2] [PO1]
- f Explain the Acid Rain? [CO2] [PO1]
- g Classify about the Municipal Solid Waste? [CO3] [PO1]
- h Classify about the Hazardous Waste? [CO3] [PO1]
- i Interpret the security equipment [CO4] [PO1]



- j Explain about the Fire Safety Rules? [CO4] [PO1]

PART – C: (Long Answer Questions) 4X15=60 Marks

Answer ALL questions

- Q.3
- a Explain about the Structural and Functional components of an ecosystem. 7+8 [CO1] [PO2]
Marks
- b What is Food chain and Explain about the Energy Flow? [CO1] [PO2]
- OR
- c Describe the common impurities mostly found in natural water ? Explain their effect on the quality of water 7+8 [CO1] [PO2]
Marks
- d Define the Noise pollution? Summarize the Noise Control ? [CO1] [PO2]
- Q.4
- Enumerate the Green house effect? What are the substances responsible for that? [CO2] [PO2]
- a Explain the remedial measures for mitigation. 7+8 [CO2] [PO2]
Marks
- b The one day and two day BOD of a sewage sample at 30⁰C are 100 and 140 mg/l respectively. Calculate the 5 day BOD at 20⁰C. [CO2] [PO2]
- OR
- c Explain any Three types of Activated Sludge Process? 7+8 [CO2] [PO2]
Marks
- d List the Factors affecting sludge Digestion? [CO2] [PO2]
- Q.5
- a Describe the composition of Municipal Solid Wastes? 7+8 [CO3] [PO2]
Marks
- b Explain about the Solid waste Disposal Techniques? [CO3] [PO2]
- OR
- c Explain about the Hazardous Treatment Methods? 7+8 [CO3] [PO2]
Marks
- d Explain about the Disposal methods of Hazardous waste management? [CO3] [PO2]
- Q.6
- a Describe about the Types of Extinguishers? 7+8 [CO4] [PO2]
Marks
- b Describe the types of personal protective equipments? [CO4] [PO2]
- OR
- c Explain about the type of storage rules? [CO4] [PO2]
7+8
- d Explain about the Storage incompatibilities? [CO4] [PO2]
Marks