

Code No:R164201C

R16

Set No. 1

IV B.Tech II Semester Regular Examinations, September - 2020
SOLID AND HAZARDOUS WASTE MANAGEMENT
(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any FOUR questions from Part-B

PART-A(14 Marks)

1. a) List out different sources of solid wastes. [2]
- b) Discuss the need for solid waste management. [3]
- c) What is compaction of solid waste? [2]
- d) What is warming composting? [3]
- e) Distinguish between reuse and recycle. [2]
- f) What is E waste? Describe the source of it. [2]

PART-B(4x14 = 56 Marks)

2. a) Write a detailed note on the characteristics, sources and problems arising from mining and industrial waste. [7]
- b) Discuss in detail about the factors affecting the solid waste generation rates. [7]
3. a) Differentiate between Rural and Urban solid wastes. [7]
- b) Explain the types of waste collection systems based on their mode of operation with a neat sketch. [7]
4. a) Explain the process followed for storage and analysis of collection system for municipal solid waste in present day scenario. [7]
- b) Discuss about waste minimization. [7]
5. a) What is Pyrolysis? In What way is it related to solid waste? What is characteristics? Explain. [7]
- b) Explain the regulatory aspects of municipal solid waste management. [7]
6. a) Explain the factors to be considered for site collection of solid waste disposal [7]
- b) Discuss about the design and operation of leachate collection system. [7]
7. a) Discuss in detail the effect of E-waste on the environment. [7]
- b) Write a detailed note on regulatory aspects of E-waste management. [7]

Code No:R164201C

R16

Set No. 2

IV B.Tech II Semester Regular Examinations, September - 2020
SOLID AND HAZARDOUS WASTE MANAGEMENT
(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any FOUR questions from Part-B

PART-A(14 Marks)

1. a) List out the types of solid wastes. [2]
- b) State the impact of solid waste on environmental with respect to today's scenario. [3]
- c) What do you understand by Transfer stations? Discuss. [2]
- d) What is energy recovery? [3]
- e) Is the collection process of E-waste different from the solid waste? Explain, how. [2]
- f) State the responsibilities of industries towards reduction of E-waste. [2]

PART-B(4x14 = 56 Marks)

2. a) Explain how effectively solid waste can be managed. [7]
- b) Describe the impact of solid waste on environmental health. [7]
3. a) Write a detail note on handling and segregation of wastes at source. [7]
- b) Discuss the problems associated with solid waste. [7]
4. a) Discuss the collection and transfer of solid waste. [7]
- b) Explain the mechanical and thermal ways and means of reduction of volume of solid wastes. [7]
5. a) Discuss various solid waste processing technologies along with their suitability. [7]
- b) Explain bio gas generation process. Explain the factors affecting their efficiency. [7]
6. a) What is meant by low level and high level radioactive wastes? Discuss the management of them. [7]
- b) Discuss in detail about collection, segregation and disposal of biomedical wastes. [7]
7. a) Discuss the problems associated with E-waste. Describe the management of E-waste. [7]
- b) Discuss recycling of E-waste. Also discuss the regulatory aspects of E-waste. [7]



Code No:R164201C

R16

Set No. 3

IV B.Tech II Semester Regular Examinations, September - 2020
SOLID AND HAZARDOUS WASTE MANAGEMENT
(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any FOUR questions from Part-B

PART-A(14 Marks)

1. a) Classify the solid waste based on sources. [2]
- b) Differentiate industrial solid wastes and hazardous wastes. [3]
- c) Write a short note on reduction of waste at source. [2]
- d) What is meant by mechanical collection of solid wastes? [3]
- e) What is the significance of recycling? [2]
- f) Define e-waste. [2]

PART-B(4x14 = 56 Marks)

2. a) Explain in detail about the classification of solid waste based on sources, types and composition. [7]
- b) Illustrate the characteristics of solid waste at various stage. [7]
3. a) Discuss the methods of waste collection system. [7]
- b) Brief the composition of industrial solid waste [7]
4. a) Write detailed note on the nuisance caused by garbage loaded open trucks on high way. [7]
- b) Explain how the regulatory aspects of municipal solid waste management is possible? [7]
5. a) Briefly outline the important factors that must be considered in the processing and treatment of solid waste. [7]
- b) Describe the techniques of energy recovery from municipal solid waste. [7]
6. a) Discuss the disposal mechanism of solid waste adopted in metropolitan cities of our country. [7]
- b) What are the various method of sanitary landfill? Explain. [7]
7. a) Explain the treatment of bio medical waste. [7]
- b) What are the regulatory aspects of bio medical waste management? Explain. [7]



Code No:R164201C

R16

Set No. 4

IV B.Tech II Semester Regular Examinations, September - 2020
SOLID AND HAZARDOUS WASTE MANAGEMENT
(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Question paper consists of Part-A and Part-B
Answer ALL sub questions from Part-A
Answer any FOUR questions from Part-B

PART-A(14 Marks)

1. a) Define solid waste. [2]
- b) Illustrate the composition of domestic waste. [3]
- c) What is the importance of waste separation? [2]
- d) Explain the solidification of solid waste. [3]
- e) Explain pyrolysis. [2]
- f) Define radioactive waste. [2]

PART-B(4x14 = 56 Marks)

2. a) Explain the factors influencing solid waste generation. [7]
- b) Discuss the importance of public awareness and role of NGOs in effective solid waste management. [7]
3. a) Explain the adverse health and environmental impacts due to improper handling of municipality solid waste. [7]
- b) Enumerate the classification of solid wastes based on its composition and characteristics. [7]
4. a) What is magnetic separation of solid waste? Explain process for magnetic separation? [7]
- b) What are the factors that influence the effectiveness of magnetic separation? [7]
5. a) Explain the different on-site processing of solid waste. [7]
- b) Explain composting process of bio degradable MSW? [7]
6. a) Describe the processing and disposal procedure adopted in our country. Compare with the methods adopted by European countries. [9]
- b) Explain the importance of drainage in leachate collection systems. [5]
7. a) Explain the collection methods of Biomedical Waste. [7]
- b) Discuss the issues associated with plastic wastes and suggest different measures to address the key issues? [7]

