

Total No. of Questions : 8]

SEAT No. :

P-7522

[Total No. of Pages : 2

[6180]-29

T.E. (Civil)

SOLID WASTE MANAGEMENT

(2019 Pattern) (Semester - II) (301015F) (Elective - II)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Attempt Q1 or Q.2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
- 2) *Figures to the right indicate full marks.*
- 3) *Draw neat figures wherever necessary.*
- 4) *Assume necessary data.*
- 5) *Use of scientific calculator is allowed.*

- Q1)** a) State the terms related to Solid waste management- [6]
i) Segregation ii) Recovery
iii) Recycling iv) Reuse
b) Explain thermal volume reduction method of processing technique. [6]
c) State the factors considered during evaluation of on-site processing equipment's. [6]

OR

- Q2)** a) Write a note on material recovery facility. [6]
b) Specify the role of transfer station in municipal solid waste management. [6]
c) Explain integrated waste management. [6]
- Q3)** a) What are factors affecting anaerobic digestion? [6]
b) Describe the incineration technologies and air emissions and its control in detail Explain the following : [6]
i) Pyrolysis
ii) Refuse derived fuel
iii) Bio gasification
c) How to estimate of low and high heating value of any material [5]

P.T.O.

OR

- Q4)** a) What are the different types of incinerators? Explain any one. [6]
b) Write environmental impacts of waste to energy system. [6]
c) Write working principle, advantages and disadvantages of anaerobic digestion process. [5]
- Q5)** a) Write short note on legacy waste management. [6]
b) Write methods of slope stability analysis. [6]
c) Describe the factors which affect production of leachate and landfill gas in the landfill? [6]

OR

- Q6)** a) What is bioreactor landfill? What are the different types of bioreactor landfill? [6]
b) Enlist methods of Biomining and explain any one method of it [6]
c) What is Leachate? How it is formed? How its movement is controlled? [6]
- Q7)** a) Explain any one case study of material recovered from e-waste. [6]
b) Explain any one case study of processing and reuse of construction & demolition waste. [6]
c) Write objectives and major provision in plastic waste management rules - 2016. [5]

OR

- Q8)** a) Discuss the present scenario of recycling of E-waste in India. [6]
b) Explain EPA - identification of hazardous and toxic waste. Write down the characteristics of hazardous waste. [6]
c) Write objectives and major provision in construction and demolition (C&D) waste management rules - 2016. [5]

