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2022

BINA CHOWDHURY CENTRAL LIBRARY
(GIMT & GIPS)
Azara, Hatkhowapara,
Guwahati - 781017

B.Tech. 8th Semester End-Term Examination

CE

SOLID AND HAZARDOUS WASTE MANAGEMENT

(New Regulation 2017-2018)

(New Syllabus 2018-2019)

Full Marks – 70

Time – Three hours

The figures in the margin indicate full marks
for the questions.

Answer question No. 1 and any *four* from the rest.

1. Answer the following (MCQ/ Fill in the blanks) : (10 × 1 = 10)

- (i) Waste is cause of concern for climate change due to presence of _____
- (a) Sulphur di oxide
 - (b) Methane
 - (c) Ethylene
- (ii) Pyrolysis is the thermal decomposition of organic matter
- (a) In presence of air
 - (b) In absence of air
 - (c) None of the above
- (iii) Optimum temperature (in Celcius) in mesophilic type of digestion is
- (a) 25-30
 - (b) 30-38
 - (c) 40-45
- (iv) The end products of anaerobic digestion are _____
- (a) Sulphate and biomass
 - (b) Digestate and biogas
 - (c) Biomass and ethylene.

[Turn over

(v) Biogas is mainly composed of _____

- (a) Methane and carbon dioxide
- (b) Nitrogen and water vapour
- (c) Oxygen and helium

(vi) Biomedical waste management rules in India were passed in the year

- (a) 1998
- (b) 1991
- (c) 2001

(vii) Which city in the world has the first waste to energy plant?

- (a) New York
- (b) Sydney
- (c) London

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(viii) The first waste to energy plant in India was established in _____

- (a) Delhi
- (b) Mumbai
- (c) Hyderabad

(ix) Phytoremediation is a method used for remediation of contaminated soil using

- (a) Plants
- (b) Waste material
- (c) Plastic

(x) The number of incinerator plants established In India are _____

- (a) 12
- (b) 10
- (c) 8

2. (a) What are the various types of waste? Classify the wastes. (7)
- (b) Describe briefly about various types of equipments for collection of waste. (8)
3. (a) Describe various methods of refuse processing, recovery and recycle. (8)
- (b) What is composting? Describe the various methods of composting. (7)
4. (a) What do you mean by anaerobic digestion? Describe the various stages of anaerobic digestion. (7)
- (b) What is incineration of waste? Describe the process of incineration. (8)

5. (a) Describe the process of pyrolysis with respect to energy recovery from waste. (8)
- (b) What is landfilling of waste? What are the factors of site selection? (7)
6. (a) How biomedical waste is classified? Describe the various sources of biomedical waste. (7)
- (b) Describe the various chemical and biological treatment methods of biomedical waste. (8)
7. (a) What is soil contamination? What are the various processes of site remediation? (7)
- (b) What is bioremediation of waste? Describe the process with example. (8)

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