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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

M TECH II Year I Semester Supplementary Examinations August-2021

WASTE TO ENERGY

(Common to All)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units 5 x 12 = 60 Marks)

UNIT-I

- 1 a Explain the following gasifiers with neat sketches (i) Updraft (ii) Down draft gasifier 6M
- b Explain the importance of Industrial waste utilization with neat sketches. 6M

OR

- 2 a Explain classification of waste – in detail. 6M
- b Explain various types of digestors for waste management briefly. 6M

UNIT-II

- 3 a What are the various types of pyrolysis? Comparison between methods 6M
- b Discuss various applications and yields of pyrolytic oils – in detail 6M

OR

- 4 a Write short notes on charcoal 6M
- b Mention primary applications of Syngas in various engineering fields. 6M

UNIT-III

- 5 a Explain the design, construction and operation of updraft gasifier 6M
- b Explain Gasifier burner arrangement for thermal heating in detail 6M

OR

- 6 a How gasifier output is utilized in Electrical Power Plants - Justify 6M
- b Write short notes on (i) Downdraft (ii) Updraft gasifiers 6M

UNIT-IV

- 7 a Explain Design, Construction and Operation of Inclined Grate Combustor 6M
- b Briefly discuss various types of Combustors. 6M

OR

- 8 a Explain the operation of Fluidized bed combustor with neat sketches. 6M
- b What is meant by exotic design of Biomass Stove? Explain in detail. 6M

UNIT-V

- 9 a Explain Design, Constructional features of Biogas Plant Technology. 6M
- b Discuss Biomass conversion processes. 6M

OR

- 10 a Explain Alcohol production from Biomass. 6M
- b Explain Bio-diesel production in detail. 6M

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