

Reg. No:

--	--	--	--	--	--	--	--	--

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
M.Tech II Year I Semester Regular Examinations January 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 importance of Industrial waste utilization with neat sketches. 6M
 b Explain conversion devices with respect to waste management. 6M

OR

- 2 a Explain about Classification of waste as fuel. 6M
 b Write short notes on (i) Incinerators (ii) Forest residue-Industrial waste. 6M

UNIT-II

- 3 a What are the various types of Pyrolysis? 6M
 b Define Syngas. How syngas is produced? 6M

OR

- 4 a Explain about Manufacture of Pyrolytic oils and gases. 6M
 b Explain about Manufacture of Charcoal. 6M

UNIT-III

- 5 Draw the gasifier engine arrangement for production of Electric power and Explain the methodology. 12M

OR

- 6 a Explain the Equilibrium and Kinetic considerations in gasifier operation. 6M
 b Explain about Downdraft and Updraft gasifiers. 6M

UNIT-IV

- 7 a Explain Design, Construction and Operation of Fixed bed combustors. 6M
 b Explain Design, Construction and Operation of Inclined combustors. 6M

OR

- 8 a Write Short notes on Biomass stoves. 6M
 b Explain the operation of Fluidized bed Combustor. 6M

UNIT-V

- 9 a Write short notes (i) Direct Combustion Biomass gasification (ii) Pyrolysis and liquefaction. 6M
 b Explain different types of biogas plants and applications. 6M

OR

- 10 Write short notes on (i) Thermo Chemical Conversion (ii) Direct combustion of Biomass. 12M

*** END ***