

Reg. No. :

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**Question Paper Code: U3T04**

M.E. DEGREE EXAMINATION, NOV/DEC 2023

Elective

21PPE604– BIOENERGY FROM WASTE

(Regulations 2021)

(Common to ALL Branches)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART - A (5 x 20 = 100 Marks)

1. (a) Explain the recycling processes of solid waste and waste management hierarchy CO1- U (20)  
Or  
(b) Explain the methods involved in waste processing, size reduction and separation. CO1- U (20)
2. (a) Discuss about the composition, characteristics, generation, movement and control of landfill leachate and gases. CO2- U (20)  
Or  
(b) Discuss about environmental monitoring system for land fill gases CO2- U (20)
3. (a) What is Pyrolysis? Explain the process with schematic diagram to convert MSW to electricity. CO3- U (20)  
Or  
(b) Discuss about the environmental and health impacts of incineration. CO3- U (20)
4. (a) Explain the process involved in Anaerobic digestion of sewage and municipal wastes. CO4- App (20)  
Or  
(b) Design a waste to energy plant for cities, small townships and villages. CO4- App (20)

5. (a) Discuss about eco-technological alternatives for waste to energy conversions. CO5- Ana (20)

Or

(b) Discuss about the rules related to the handling, treatment and disposal of MSW and BMW in India. CO5- Ana (20)