

Course Code:212
**BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY &
 SCIENCE(AUTONOMOUS)**

II - M.Tech I -Semester Regular Examinations (BR23), July/Aug - 2024

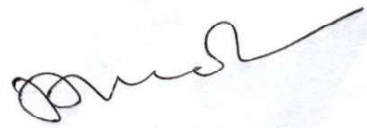
WASTE TO ENERGY (VLSI)

Time: 3 hours

Max. Marks: 75

*Answer any Five Questions One Question for One UNIT
 ALL the Question Carry Equal Marks*

UNIT-I		Marks	CO	BL
1.a)	Explain the importance of Industrial waste utilization with neat sketches	7M	C212.1	L1
b)	Explain classification of waste – in detail	8M	C212.1	L1
OR				
2.a)	Explain the following gasifiers with neat sketches (i) Updraft (ii) Down draft gasifier	7M	C212.1	L1
b)	Explain various types of digestors for waste management briefly.	8M	C212.1	L1
UNIT-II		Marks	CO	BL
3.a)	Explain the process of pyrolysis – in detail	7M	C212.2	L1
b)	Summarise are the various types of pyrolysis? Comparison between methods	8M	C212.2	L2
OR				
4.a)	Discuss Slow and Fast Pyrolysis methods	7M	C212.2	L2
b)	Contract the manufacturing process of pyrolytic oils briefly.	8M	C212.2	L4
UNIT-III		Marks	CO	BL
5.a)	Define gasifier. Classify various types of gasifiers.	7M	C212.3	L3
b)	Explain the design, construction and operation of updraft gasifier.	8M	C212.3	L1
OR				
6.a)	Explain the design, construction and operation of Downdraft gasifier.	7M	C212.3	L1
b)	Describe the following (i) Equilibrium (ii) Kinetic considerations of gasifier in detail	8M	C212.3	L1
UNIT-IV		Marks	CO	BL
7.a)	Design, Construction and Operation of Fixed bed combustor	7M	C212.4	L6
b)	Design, Construction and Operation of Inclined Grate Combustor	8M	C212.4	L6
OR				
8.a)	Explain the operation of Fluidized bed combustor with neat sketches.	7M	C212.4	L1
b)	Illustrate the exotic design of Biomass Stove? Explain in detail	8M	C212.4	L1
UNIT-V		Marks	CO	BL
9.a)	Explain Design, Constructional features of Biogas Plant Technology	7M	C212.5	L1
b)	Discuss Biomass conversion processes	8M	C212.5	L2
OR				
10.a)	Explain Bio-diesel production in detail	7M	C212.5	L1
b)	Explain the following in detail (i) Biomass gasification (ii) Pyrolysis & Liquefaction	8M	C212.5	L1



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BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE

(An Autonomous Institution)

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Course: M Tech

Branch: ECE - VLSI


Subject: WASTE TO ENERGY (VLSI)

Regulation: BR23

COURSE OUTCOMES

C212.1	Classification of waste categories	ANALYZE
C212.2	Summarize the pyrolysis methods.	UNDERSTAND
C212.3	Design of various design operations.	APPLY
C212.4	Describe the combustion chambers.	UNDERSTAND
C212.5	Evaluate the biomass production and its applications	EVALUATING


FACULTY INCHARGE


HEAD OF THE DEPT