Q.P. Code:20ME3106 **R20**

Reg. No: | | | | | | | | | | |

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

M.Tech I Year II Semester Regular Examinations November-2021

STEAM ENGINEERING

(Thermal Engineering)

Time: 3 hours Max. Marks: 60

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

UNIT-I

1	**a**	How Boilers are classified. Explain.	**L1**	**6M**
	b	How do you check the quality of feed water supplied to the Boiler?	**L1**	**6M**
		OR		
2		Explain the formation of steam with T-S Diagram.	**L2**	**12M**
		UNIT-II		
3	**a**	What is the importance of heat recovery systems in Boiler?	**L1**	**6M**
	b	List out the advantages of heat recovery system.	**L4**	**6M**
		OR		
4	**a**	State the objectives of refractory materials.	**L1**	**6M**
	b	Explain the classification of refractory material with examples.	**L2**	**6M**
		UNIT-III		
5		Write the procedure for the design of steam generating facility for commercial use.	**L2**	**12M**
		OR		
6	**a**	What is the importance of steam leakage in steam distribution system?	**L2**	**6M**
	b	Mention the remedial actions for eliminating the steam leakage.	**L2**	**6M**
		UNIT-IV		
7	**a**	Express the importance of assessing boiler performance.	**L2**	**4M**
	b	The following data relates to a coal fired boiler. Steam generated is 8 tons/hr: steam pressure and temperature are 10 kgf/cm^2 and 180°C; Enthalpy of Steam (Dry & Saturated) at 10 kgf/cm^2 is 665Kcal/Kg Feed water temperature is 85 Kcal/kg; Quantity of coal Consumed is 1.6 tons/hr; Gross Calorific Value is 4000 Kcal/Kg. Find the efficiency of the boiler and the evaporation rate.	**L3**	**8M**
		OR		
8		Describe the working of Orsat Apparatus for Flue gas analysis with a neat sketch.	**L2**	**12M**
		UNIT-V		
9		Asses the basic causes of Waste in Steam Power Plant.	**L5**	**12M**
		OR		
10	**a**	How can you conserve the energy in Boilers?	**L5**	**6M**
	b	Write a short note on Waste Minimization.	**L2**	**6M**

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