(08 Marks)

(08 Marks)

(04 Marks)

(08 Marks)

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Eighth Semester B.E. Degree Examination, June/July 2014 Power Plant Engineering

Time: 3 hrs. Max. Marks: 100 1/2

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

		PART – A	in the second se
1	a.	Draw a general layout of a steam power plant, showing the different circuits and	•
	b.	explain them. Explain with a neat sketch of chain grate stoker.	(10 Marks)
	c.	Write the merits and demerits of pulverized coal.	(06 Marks)
	٠.	write the merits and demerits of purvertized coat.	(04 Marks)
2	a.	What are the requirements of good coal handling plant?	(04 Marks)
	b.	Explain with neat sketch: i) Benson boiler, ii) Loeffler boiler	(12 Marks)
	c.	What are characteristics of a good ash handling plant?	(04 Marks)
3	a.	Explain the forced, induced, balanced draught chimneys.	(06 Marks)
-	b.	Explain with sketch: i) Air preheater, ii) Superheater.	(08 Marks)
	c.	Calculate the mass of flue gases flowing through the chimney when the draught	,
	•	equal to 1.9 cm of water. Temperature of flue gases is 290°C and ambient ten	•
		20°C. The flue gases formed per kg of fuel burnt are 23 kg. Neglect the losses a	•
		diameter of the chimney as 1.8 m.	(06 Marks)
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4	a.	Explain with neat sketch the air intake system and exhaust system of diesel power	•
	b.	Sketch and explain the layout of a diesel engine power plant.	(12 Marks) (08 Marks)
	υ.	sketch and explain the layout of a diesel engine power plant.	(vo marks)
		$\underline{PART} - \underline{B}$	
5	a.	Explain the following:	
		i) Water hammer ii) Pumped storage plant iii) Surge tank on ground level	
	b.	What are the advantages and disadvantages of hydro-electric plants?	(08 Marks)
6	a.	Give the classification of nuclear reactors.	(06 Marks)
v	b.	Sketch and explain gas cooled reactor and also list its advantages.	(10 Marks)
	c.	What are safety measures for nuclear power plants?	(04 Marks)
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7	a.	Define: i) Demand factor, ii) Load factor, iii) Diversity factor	
	::	iv) Utilization factor v) Capacity factor vi) Use factor	(12 Marks)
	b.	A base load power station and standby power station share a common load as foll	
		Base load station annual output = 180×10^6 KWh; Base load station capacity	
		Maximum demand on base load station = 36 MW; Standby station capacity	
		Standby station annual output = 17×10^6 KWh; Maximum demand (peak load)	on standby
		station = 18 MW.	
		Determine the following for both power stations:	

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Explain the performance and operating characteristics of power plant.

c. What are different types of tariffs? Explain any two of them.

b. Give the requirements of Tariff.

ii) Capacity (or plant) factor.