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Code No. : 16118 (E)

VASAVI COLLEGE OF ENGINEERING (*Autonomous*), HYDERABAD

B.E. (CBCS) VI-Semester Main Examinations, January-2021

Basics of Power Systems

(Open Elective-V)

Time: 2 hours

Max. Marks: 60

Note: Answer any *NINE* questions from *Part-A* and any *THREE* from *Part-B**Part-A* ( $9 \times 2 = 18$  Marks)

Q. No.	Stem of the question	M	L	CO	PO
1.	What is the role of Economizers in Thermal power station?	2	1	1	1,2
2.	Draw the path of flue gases in Thermal power station.	2	2	1	1,2
3.	Describe the function of Surge tank in Hydel power station.	2	2	2	1,2
4.	Describe the water turbines based on heads in Hydel power station.	2	1	2	1,2
5.	What is the difference between Fusion and Fission?	2	2	1	1,2
6.	Explain the function of Moderator in Nuclear power station.	2	1	1	1,2
7.	Explain the difference between Load curve and load duration Curve.	2	1	4	1,2
8.	What are the types of cost?	2	2	4	1,2
9.	What are the disadvantages of Low P.F	2	1	3	1,2
10.	What is the significance of Low P.F	2	2	3	1,2
11.	The overall efficiency of thermal plant is quite low. Why?	2	1	1	1,2
12.	What are the types of Hydel power stations?	2	1	2	1,2
<b>Part-B</b> ( $3 \times 14 = 42$ Marks)					
13. a)	Explain the operation of Thermal power station with a neat line diagram.	10	2	1	1,2
b)	A 250MW steam power station uses coal of calorific value 6,100Kcal/Kg. The plant runs at 90%of Full load for 20 hours and at 75% of full load for the remaining 4 hours in a day. Find out the daily coal requirement of the plant having thermal efficiency of 30% and generator of 93%.	4	3	1	1,2
14. a)	Explain the operation of Hydro electric station with Schematic diagram.	10	2	2	1,2
b)	Calculate the electrical power available for a water discharge of $1\text{m}^3/\text{Sec}$ through a head of 200 meters. How much energy will be available in an Hour? Assume the hydraulic and electric efficiency are 0.85&0.95 respectively.	4	3	2	1,2
15. a)	What is a Nuclear reactor? Describe briefly Various components of a Nuclear reactor.	10	2	1	1,2
b)	What are the different merits and demerits of Nuclear Power Plant?	4	3	1	1,2
16. a)	Discuss how Load factor and diversity factor influence the installed capacity of Generating station.	7	3	4	1,2

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