

## Model Question Paper

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### Fourth Semester B.E. Degree Examination Power Generation And Economics

TIME: 03 Hours

Max. Marks: 100

Note: Answer any **FIVE** full questions, choosing at least **ONE** question from each **MODULE**.

Module -1			*Bloom's Taxonomy Level	COs	Marks
Q.01	a	Explain the hydrological cycle with a neat schematic diagram.	L2	1	07
	b	With a neat sketch, explain the function of governor used to control the speed of hydraulic turbine.	L2	1	07
	c	Describe with a schematic diagram i) Low head hydro power plant ii) Medium Head Power plant iii) High head hydro power plant.	L1	1	06
OR					
Q.02	a	Discuss the utility of hydrograph, flow duration curve & mass curve for the hydro power plants.	L2	1	06
	b	Explain the factors to be considered for the selection of site for a hydroelectric power plant.	L2	1	07
	c	With the neat sketch, explain the working of pelton wheel turbine.	L2	1	07
Module-2					
Q. 03	a	Explain with schematic diagram the open cycle and closed cycle gas turbine power plants.	L2	2	06
	b	Discuss the functions of condenser, cooling towers and economizer in thermal power plant.	L2	2	06
	c	Explain the factors to be considered for selection coal for steam power plant.	L2	2	08
OR					
Q.04	a	Explain with block diagram the process of fuel handling in a thermal power plant.	L2	2	06
	b	Discuss the following in diesel power plant i) Fuel supply system ii) Air intake system iii) Lubricating System iv) Engine starting system.	L2	2	08
	c	Discuss the application of diesel power plant.	L1	2	06
Module-3					
Q. 05	a	List the advantages and disadvantages of nuclear power plant.	L1	3	06
	b	Describe the construction and working of a Pressurized water reactor.	L2	3	08
	c	Discuss the classification of nuclear reactors.	L2	3	06
OR					
Q. 06	a	Explain briefly the functions of Nuclear reactor.	L2	3	08
	b	Discuss the factors to be considered for site selection of nuclear power plant.	L2	3	06
	c	Discuss the disposal of nuclear waste in nuclear power plant.	L2	3	06
Module-4					
Q. 07	a	Discuss the classification of substations.	L2	4	06
	b	Draw the line diagram of 66/11KV substation.	L2	4	08
	c	Discuss the factors to be considered for site selection of substation.	L2	4	06
OR					
Q. 08	a	Explain the following i) Resistance grounding ii) Reactance grounding	L2	4	06

	b	Derive with a neat schematic diagram and phasor diagram an expression for capacitive fault current in a ungrounded neutral system.	L2	4	08
	c	Explain Earthing transformer with neat diagram.	L2	4	06
<b>Module-5</b>					
Q. 09	a	Define Tariff. Explain i) Block rate tariff ii) Twp port tariff iii) KVA maximum demand tariff.	L2	5	06
	b	What are the main objectives in framing a Tariff?	L2	5	06
	c	Explain the principal factors affecting the tariff fixation.	L2	5	08
<b>OR</b>					
Q. 10	a	300 kVA distribution transformer costs Rs.20000 & has a salvage value of Rs.1000 at the end of 20 Years. Determine the depreciated value of the power plant at the end of ten years on the following methods of assessment. i). Straight line depreciation. ii).Sinking fund depreciation of 8% compounded annually.	L3	5	08
	b	Mention the measures by which low power factor can be avoided.	L2	5	06
	c	Discuss the effects of low power factor.	L2	5	06

\*Bloom's Taxonomy Level: Indicate as L1, L2, L3, L4, etc. It is also desirable to indicate the COs and POs to be attained by every bit of questions.