[M19 PS 1101]

I M. Tech I Semester (R19) Regular Examinations
ADVANCED POWER SYSTEM OPERATION AND CONTROL
Electrical & Electronics Engineering Department
MODEL QUESTION PAPER

TIME: 3Hrs. **Max. Marks: 75 M**

Answer **ONE Question** from **EACH UNIT.**
All questions carry equal marks.
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			CO	KL	M
		UNIT-I			
1.	**a).**	Explain the gradient approaches hydro-thermal scheduling. ?	**2**	**K2**	**7M**
	b).	Discuss the base point & participation factors method of economic dispatch.	**2**	**K2**	**8M**
		OR			
2.	**a).**	Derive the composite generation protection cost function?	**1**	**K2**	**7M**
	b).	Explain how the fuel scheduling is done by linear programming?	**2**	**K2**	**8M**
		UNIT-II			
3.	**a).**	Obtain the solution of an optimal unit commitment problem with dynamic programming method?	**3**	**K2**	**8M**
	b).	Write the advantages of dynamic programming method over priority list scheme?	**3**	**K2**	**7M**
		OR			
4.	**a).**	What are the varis constraints in unit commitment problem? Explain them	**3**	**K2**	**7M**
	b).	Obtain the economic schedule for the two units, the production costs of which are given follows to supply a load of 3MW, in steps of 1MW. C_1=0.8 P_1+25P_1; C_2= 1.2P_2+22P_2 use dynamic programming method.	**3**	**K3**	**8M**
		UNIT-III			
5.	**a).**	Describe the application of Optimal power flow	**6**	**K2**	**7M**
	b).	Explain the flow diagram of Security constrained OPF.	**6**	**K2**	**8M**
		OR			
6.	**a).**	Explain gradient method for optimal power flow	**6**	**K2**	**7M**
	b).	Discuss the strategy for solution of Linear Programming optimal power flow problem with the help of flow diagram	**6**	**K2**	**8M**
		UNIT-IV			
7.	**a).**	Two generators of rating 100MW and 200MW are operated with a droop characteristic of 6% from no load to full load. Find the load shared by each generator, if a load of 270MW is connected across the parallel combination of those generators?	**4**	**K3**	**7M**

	b).	Explain briefly abt modeling of single area load frequency control with a neat sketch	**4**	**K2**	**8M**
		OR			
8.	**a).**	Explain the static response of two area system for un controlled case?	**4**	**K2**	**8M**
	b).	Find the static frequency drop if the load is suddenly increased by 25MW on a system having the following data: Rated capacity is 500MW, operating load is 250MW, inertia constant is 5s, governor regulation R= 2Hz/ p.u MW, frequency is 50Hz. Also find the additional generation?	**4**	**K3**	**6M**
		UNIT-V			
9.	**a).**	Explain the concept of power pools with an example?	**5**	**K2**	**7M**
	b).	Explain abt the economy inter change evaluation with an example?	**5**	**K2**	**8M**
		OR			
10.	**a).**	Discuss abt interchange evaluation with unit commitment	**5**	**K2**	**7M**
	b).	Explain the following i) Diversity interchange. ii) Emergency power interchange	**5**	**K2**	**8M**