Total No. of Printed Pages:1

**SUBJECT CODE NO: H-1772**
**FACULTY OF SCIENCE AND TECHNOLOGY**
**M.E. (Electrical Power System)**
**Power System Planning & Eco. Operation**
**(REVISED)**

**[Time: Three Hours]** **[Max.Marks:80]**

Please check whether you have got the right question paper.

N.B i) Solve any two questions from each section.
ii) Assume the suitable data if necessary.

**Section A**

Q.1 a) What are Power resources? Explain current scenarios in India. 10
b) What are the factors that affects forecast modelling? Explain all. 10

Q.2 a) Draw flow diagram for finding peak demand. Explain peak load forecast. 10
b) Explain different modes of contracting in power sector? 10

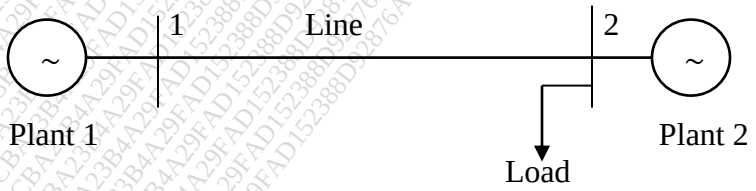
Q.3 a) Explain transmission & distribution planning. 10
b) How regional & national planning is done? Explain in detail. 10

**Section B**

Q.4 a) Discuss the general problem of economic operation of large interconnected areas. 10
b) Derive the expression for the transmission loss formula & its loss coefficients. 10

Q.5 a) A two bus system shown in figure supplies a load at bus 2. If 50 MW is transmitted from plant 1 to load at bus 2 over the line, the loss is 2.5 MW. The incremental production costs at both the plants are given by $^{dC_1}/_{dP_1} = 0.03P_1 + 15$ & $^{dC_2}/_{dP_2} = 0.05P_2 + 20$ 10

The value of $\lambda$ is 23 Rs/MW hr Determine the generation schedule for economy with losses co-ordinated.




**Figure**

b) Explain a single area LFC. 10

Q.6 a) Explain the methods for reactive power control. 10
b) How decentralized control is applied? Explain in detail. 10