PVP 12

Code: **EEPC1T3**

I M.Tech-I Semester-Regular Examinations-April 2015

POWER SYSTEM OPERATION AND CONTROL

(POWER SYSTEM CONTROL AND AUTOMATION)

Duration: 3 hours Marks: 5x14=70

Answer any FIVE questions. All questions carry equal marks

1 a) What is Unit commitment? What is the necessity of it in power systems? 7 M

b) Describe the different thermal and hydro constraints considered in solving unit commitment problem. 7 M

2 a) With the help of neat flow chart, explain about forward dynamic programming technique used for unit commitment problem. 7 M

b) What are the advantages of Dynamic programming over the priority list scheme? 7 M

3 What do you understand by Load Frequency problem? What are the issues involved in mitigating and controlling the problem? 14 M

4 a) Explain the procedure for obtaining the Dynamic response of an uncontrolled isolated power system. Plot the same. 7 M

b) What do you understand by tie-line bias control? 7 M

5 a) What do you mean by Economic dispatch control? 7 M

b) How do you evaluate the performance index and optimal parameters in optimal load frequency problem? 7 M

6 Explain the PI control of a single area system and its block diagram. Plot the steady state response. 14 M

7 What are Hard limits and slack variables? How do you model them in the Linear programming method of Fuel Scheduling? Explain. 14 M

8 Write short notes on the following. 14 M

a) Multiple interchange contracts

b) After the fact production costing

c) Power pools