(Pages:2) Reg. No…….

Name…….

M.TECH DEGREE EXAMINATION

First Semester

Model Question Paper - I

Branch: Electrical and Electronics Engineering

Specialization: Power Electronics

MEEPE 106.2 POWER SYSTEMS OPERATION AND CONTROL (Elective)

(2013 Admission onwards)

(Regular)

Time : Three Hour **Max. Mark : 100 Marks**

I

a) What do you mean by unit commitment ? [5 Marks]

b) What is spinning reserve ? [5 Marks]

c) Explain with a flowchart the forward DP approach of dynamic programming solution of unit commitment. [15 Marks]

OR

a) Explain the following solutions of economic dispatch problem.

1) Gradient method
2) Newton's method
3) Base point and participation factor method [25 Marks]

II

a) Explain hydro – units in series. [10 Marks]

b) Formulate a short term hydrothermal scheduling problem by gradient method. Also explain with flowchart, the solution of this problem by this method. [15 Marks]

OR

a) Discuss briefly hydrothermal scheduling [10 Marks]

b) Explain pumped storage hydro scheduling with a lambda gama iteration. [15 Marks]

III

a) What do you mean by load frequency control? [10 Marks]

b) Explain the steady state response of a controlled two area system. [15 Marks]

OR

a) What is AGC? [5 Marks]

b) Explain the function of ACE. [5 Marks]

c) Explain load frequency and economic dispatch controls in an interconnected power system. [15 Marks]

IV

a) What do you mean by synchronous condenser [10 Marks]

b) Explain the different methods of voltage control. [15 Marks]

OR

a) What do you mean by contingency analysis? [5 Marks]

b) Draw the flowchart and explain the AC powerflow security analysis of a power system. Also explain this method with contingency case selection. [20 Marks]