Total No. of Questions : 5] *[Total No. of Printed Pages : 2*

Roll No .....

EX-701

B.E. VII Semester

Examination, December 2016

Power System - II

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

Unit-I

1. a) What are the problems associated with modem interconnected power system.
   b) Why deregulation in power system is necessary.
   c) Write short notes on distributed generation.
   d) What is Available transfer capacities in power system? Explain.

OR

Explain pricing of energy and transmission services.

Unit-II

2. a) Why is load flow study necessary?
   b) How are buses classified?
   c) What is the difference between Z_{bus} and Y_{bus}?
   d) Form Y_{bus} for the 4-bus system if the line series impedances are as follows

Line (bus to bus)	Impedance
1-2	0.15 + J 0.6 pu
1-3	0.1 + J 0.4 pu
2-3	0.15 + J 0.6 pu
2-4	0.05 + J 0.2 pu
3-4	0.05 + J 0.2 pu

Neglect the shunt capacitance of line.

OR

Explain Gauss-Seidel method for load flow studies.

Unit-III

3. a) Why load frequency control is necessary?
   b) Classify and explain types of frequency regulation.
   c) Distinguish between load frequency control and economic dispatch control.
   d) Give the diagram of speed governing and explain it.

OR

Explain the load frequency control by its block diagram.

Unit-IV

4. a) Why is Voltage control required in power systems?
   b) What is meant by synchronous condensers or phase modifiers?
   c) Describe how series and shunt capacitors can minimise the voltage drop in the line.
   d) Give the general block diagram of voltage regulators and explain it.

OR

Explain AC type static excitation system with its figure.

Unit-V

5. a) What is meant by Stability of a power system?
   b) Why transient stability limit is lower than steady state limit?
   c) Define steady state stability and methods to improve it.
   d) Derive the swing equation of a synchronous machine.

OR

Describe the Runge-Kutta method of solution of swing equation for multi machine system.

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