

Roll No .....

**EX - 701(GS/NGS)****B.E. VII Semester**

Examination, December 2013

**Power System - II****Time : Three Hours**

RGPVONLINE.COM

**Maximum Marks : 70/100****Note:** 1) Attempt any two parts of each question.

2) All questions carry equal marks.

1. a) What do you understand by restructuring process?  
Describe various entities involved in restructuring.
- b) What is distributed generation? Explain utility and customer benefits of using distributed generation.
- c) Discuss the sources and solution strategies of congestion in power network.
2. a) Develop load flow equations suitable for solution using N-R method.
- b) Derive transmission loss formula for two plants connected through a power network to a number of loads.
- c) What do you understand by economic dispatch? Discuss the main objectives of economic dispatch and load dispatch centers.
3. a) Discuss the concepts of single area and multi area load frequency control.
- b) Explain in brief the dynamic response of load frequency controller with and without integral control system action.
- c) Two generator rated 200MW and 400MW are operating in parallel. The droop characteristics of their governors are 4% and 5% respectively from no load to full load. Assuming that these generators are operating at 50Hz at no load how would a load of 600MW be shared between them? What will be the system frequency at this load? Assume free governor operation.
4. a) What do you understand by swing equation and equal-area criterion? Discuss their applications and limitations in the study of power system stability.
- b) Develop an algorithm of Runge-Kutta method for the solution of swing equation and compare with other techniques.
- c) Discuss the effect of neutral grounding on the stability of a power system.
5. a) Draw a general block diagram of voltage regulator and explain the function of each block.
- b) Describe in brief various alternative approaches to maintain the required voltage profile of the transmission systems.
- c) Explain the characteristics of an excitation system.

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