

Roll No.

23259

**M.Tech 1st Semester
(Electrical Engg.) Specialization :
Electrical Power Systems
Examination–May, 2014**

POWER SYSTEM OPERATION AND CONTROL

Paper MTEPS-103

Time : 3 hours

Max. Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt any **five** questions.

1. (a) What are the advantages of dynamic programming method over priority list method ? 5

- (b) How can we do load frequency control ?
Explain in brief. 5

- (c) Explain the governor model with its transfer function in brief. 5
- (d) What is the transmission of loss in transaction evaluation ? 5

SECTION - A

2. (a) What are the thermal and hydal constraints in unit commitment problem ? 10
- (b) How an algorithm will work for priority list method in unit commitment problem ? 10
3. Explain backward dynamic programming approach. Also explain flowchart solution of DP method. 20
4. (a) What is the need to keep frequency constraints in our system ? 10

(b) Why do we need control area and define the term control area. 10

5. Explain the block diagram representation of an isolated power system in detail. 20

SECTION - C

6. Explain the load frequency control of two area systems with complete block connections. 20

7. Explain optimal load flow control in steady state representation. 20

SECTION - D

8. Explain generation with limited energy supply solution by gradient search techniques. 20

9. Explain interchange evaluation and power pools economy interchange. 20