

Roll No.

24423

B. Tech. 7th Semester (Electrical Engg.)

Examination – December, 2016

POWER SYSTEM OPERATION AND CONTROL

Paper : EE-405-F

Time : Three Hours]

[Maximum 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 examination.

Note : Question No. 1 is *compulsory*. Attempt *one* question from each of four Section. Each question carry 20 marks.

1. (a) Explain factor affecting transient stability.
- (b) Enumerate various methods used for solving unit Commitment problem.
- (c) Discuss load factor, demand factor and plant capacity factor.
- (d) Discuss role of AVR.
- (e) Explain Tie line in short.

SECTION – A

2. (a) Discuss load frequency control for single area case.
(b) Introduce economic dispatch problem. Discuss how is unit commitment problem formulated ?
3. Explain generator and governor model of automatic generation control of electric power.

SECTION – B

4. (a) How fuel cost in hydrothermal power station is minimized ?
(b) Discuss optimal operation of generators of Bus bar.
5. (a) Discuss optimal generation schedule.
(b) Explain reliability considerations.

SECTION – C

6. (a) Explain the steady state stability, transient stability, dynamic stability.
(b) Effect of fault on clearing time & equal area criteria.
7. (a) Write short note on power system stability and its types.
(b) Discuss dynamics of synchronous machine.

SECTION – D

8. Discuss the role of AVR on transient stability of system also discuss the type 0 and 1 excitation system.
9. (a) What is voltage collapse ? How you prevent it ?
(b) Explain power system stabilizers.

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