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Total No. of Questions : 09

B.Tech.(Electrical & Electronics Engg.) (2013 & Onwards E-II)
(Sem.-7)

GENERATION AND CONTROL OF POWER

Subject Code : BTEEE-804A

M.Code : 71963

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Answer the following in short :

- (a) What is the objective of power system control?
- (b) What are the problems associated with the interconnected power system?
- (c) Write the tie line power deviation equation in terms of frequency.
- (d) What is the purpose of primary ALFC?
- (e) Define spinning reserve.
- (f) Compare unit commitment and economic dispatch.
- (g) What are the major functions that are carried out in an operations control center?
- (h) What is security monitoring and control?
- (i) What do you mean by fixed head and variable head?
- (j) Why the maximum and minimum power generation limits are required?

SECTION-B

2. Describe contingency analysis.
3. Describe the excitation systems.
4. What are the components of speed governor system of an alternator? Derive a transfer function and sketch a block diagram.
5. Explain briefly the constraints on unit commitment problem.
6. Describe the block diagram of P-V controller.

SECTION-C

7. Explain how voltage control can be effected by injection of Reactive Power.
8. Discuss a solution technique of AC-DC power flow equations.
9. Derive coordination equation for economic dispatch including losses, in the power system. Give steps for economic dispatch calculation. Neglecting losses.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.