

Code: EE8T3B

IV B.Tech - II Semester – Regular Examinations – April 2016

**SMART GRID
(ELECTRICAL & ELECTRONICS ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

Answer any FIVE questions. All questions carry equal marks

1. a) Highlight on evolution of electric grid and the concept of smart grid. 7 M
b) Write a note on opportunity and barriers in smart grid. 7 M
2. a) Explain 8 M
i) Phasor Measurement unit ii) Smart Meters
b) Discuss about MAS Technology. 6 M
3. a) Describe the challenges to load flow in smart grid. 4 M
b) Explain Gauss Seidal & Newton-Raphson method in load flow state. 10 M
4. a) Explain Steady State Contingency analysis. 6 M

- b) Explain sensitivity based approaches and contingency studies for the smart grid. 8 M
5. a) What is the importance of voltage stability assessment and explain any one type of voltage stability assessment. 9 M
- b) Discuss voltage stability indexing. 5 M
6. a) Give overview of methods for angle stability. 4 M
- b) Give pre post estimation and post estimation analysis with the help of flow chart. 10 M
7. a) Explain any two optimization technique in detail. 10 M
- b) What are decision support tools in smart grid? 4 M
8. a) What is Particle swarm optimization? 4 M
- b) Explain expert system and Genetic Algorithm. 10 M