

Code: EE8T2C

**IV B.Tech - II Semester – Regular / Supplementary Examinations
March 2019**

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

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11 x 2 = 22 M

1.

- a) Mention two factors on which the design frame work of a smart grid is based.
- b) List the five key aspects of smart grid development.
- c) List any four attributes involved in working definition of smart grid.
- d) Mention any two wired technologies used for smart grid communication.
- e) List the three functions of advanced metering infrastructure.
- f) Mention any two challenges for load flow to be used for smart grid.
- g) Define congestion management.
- h) Differentiate between voltage stability and collapse
- i) How do you classify voltage stability?
- j) What are decision support tools?
- k) List any four static optimization techniques.

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) Explain in detail the difference between the present grid and smart grid. 8 M
- b) Explain the role of various stakeholders in smart grid development. 8 M
3. Explain about the following
 - a) PMU 8 M
 - b) WAMS 8 M
4. Discuss about security assessment and contingencies in smart grid with neat sketches. 16 M
5. a) Describe about various voltage stability assessment techniques. 8 M
- b) Define stability. What is the necessity of maintaining stability in Smart Grids. 8 M
6. Discuss about the following
 - a) Linear programming. 8 M
 - b) Stochastic programming. 8 M