

I M.Tech - II Semester - Regular Examinations - AUGUST 2018

**SMART GRID TECHNOLOGIES & APPLICATIONS
(POWER SYSTEM & CONTROL)**

Duration: 3 hours

Max Marks: 60

Answer the following questions.

1. a) Difference between conventional Grid and smart grid. 7 M

b) Explain how storage of electrical energy is necessary in smart grids? 8 M

(OR)

2. a) What are the different opportunities & barriers of smart grid in India? 7 M

b) Explain the need for demand response in smart grid. 8 M

3. a) Explain the role of advanced metering infrastructure (AMI) in smart grid. 8 M

b) What are the advantages of distributed renewable over centralized power generation? 7 M

(OR)

4. a) Explain how home area networks (HAN) are helpful in energy management? 8 M

b) Explain about the different demand response technologies used in smart grid. 7 M

5. a) Discuss about advantages of distribution network reconfiguration. 7 M

b) Explain the intelligent distribution control methods. 8 M

(OR)

6. a) Discuss about the advances in storm response. 8 M

b) Explain how the use of PEVs can impact the distribution networks in smart grids? 7 M

7. a) Explain the concept of phasor measurement unit and also its application. 8 M

b) Explain the role of FACTS devices for VAR control in smart grid. 7 M

(OR)

8. a) Explain about evolution and concepts of synchro phasor technology. 8 M

b) What do you mean by cascading failure blackout? How it occurs? 7 M