

Total No. of Questions : 8]

SEAT No. :

PC2405

[Total No. of Pages : 2

[6354]-522

B.E. (Electrical Engineering)

SMART GRID

(2019 Pattern) (Semester - VIII) (Elective - V) (403150C)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Solve Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*
- 2) *Figures to the right indicate full marks.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Assume suitable additional data, if necessary.*
- 5) *Use of a non-programmable calculator is allowed.*

- Q1)** a) What is Geographic Information System (GIS)? [4]
b) Explain the components of GIS? [6]
c) Explain how automatic meter reading can make the system smarter? [8]

OR

- Q2)** a) Explain Introduction of smart meters? [4]
b) Explain various components of smart substation? [6]
c) Explain role of AMI in Smart Grid? [8]

- Q3)** a) Write a note on 'Web based Power Quality Monitoring? [8]
b) Explain the concept WAN related to smart grid? [9]

OR

- Q4)** a) Explain cloud computing and its need? [8]
b) Why cyber security is of prime importance in Smart grid & how it can be achieved? [9]

- Q5)** a) Write a note on 'protection & control of Micro grid'? [9]
b) Explain concept of micro grid and its need and application? [9]

P.T.O.

- Q6) a) Compare Micro grid and Smart Grid? [9]**
b) Explain about protection and control of micro grid? [9]

- Q7) a) List different smart appliances and describe an integration of smart Appliances into grid for Home and Building Automation? [8]**
b) Explain EMC and its importance in smart grid? [9]

OR

- Q8) a) Describe the power quality issues of grid connected renewable Energy Sources? [8]**
b) Describe the concept, power quality conditioners related to smart grid?[9]