

Total No. of Questions : 8]

SEAT No. :

PE-2209

[Total No. of Pages : 2

[6584]-108

B.E. (Electrical Engineering)

SMART GRID

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

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Each question carry 18 or 17 marks*
- 2) *Solve question Q1 or Q2, Q3 or Q4, Q5 or Q6 and Q7 or Q8*
- 3) *Figures to the right side indicate full Marks*
- 4) *Assume the suitable data, if necessary*
- 5) *Neat diagrams must be down wherever necessary.*

Q1) a) Highlight on role of geographic information system in smart grid and also give its function. [9]

b) Draw and explain functional block diagram of smart substation. [9]

OR

Q2) a) Draw and explain functional block diagram of smart meter. [9]

b) Explain the different functions of Advance metering infrastructure(AMI). [9]

Q3) a) Explain the role of HAN in smart grid. [9]

b) Explain with the help of neat diagram WAMPAC. [8]

OR

Q4) a) Explain the protocol Architecture of zigbee. [9]

b) Explain cloud computing and its need. [8]

Q5) a) Explain architecture of micro grid with neat labelled diagram. Also state the applications of micro grid. [9]

b) State and explain the issues of interconnecting the micro grid with the utility grid. [9]

OR

Q6) a) Compare Micro grid and Smart Grid. [9]

b) Explain about protection and control of micro grid. [9]

P.T.O.

- Q7)** a) Explain Power Quality issues of grid connected Renewable Energy Sources. [9]
b) Explain the concept of power quality and EMC in Smart Grid. [8]

OR

- Q8)** a) Explain the Reliability indices CAIDI, CAIFI, MAIDI and MAIFI. [9]
b) Explain the different types of data analytics in smart grid. [8]

