SEAT No. :

P3097

[5670]-198

B.E. (Electrical Engineering)
SMART GRID
(2012 Pattern) (Elective - IV (a)) (Semester - II)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

   1)   *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.*

   2)   *Figures to the right indicate full marks.*

   3)   *Neat diagrams must be drawn wherever necessary.*

   4)   *Assume suitable additional data, if necessary.*

Q1) a)   Discuss the function of smart grid.   **[6]**

     b)   Explain Smart Storage Technology.   **[6]**

     c)   Highlight on role of Outage Management System and also give its function.   **[8]**

OR

Q2) a)   Explain the concept of resilient and self-healing grid.   **[6]**

     b)   Write a note on, "PMU".   **[6]**

     c)   Write short notes on   **[8]**

        i)   AMI and

        ii)   Real time prizing

Q3) a)   Explain concept of D.C micro grid, and its need.   **[8]**

     b)   Explain the smart micro grid, its benefit and compare with microgrid.**[8]**

OR

Q4) a)   Describe architecture of microgrid.   **[8]**

     b)   Explain the need and application of Micro Grid.   **[8]**

P.T.O.

Q5) a) Explain Web Based Power Quality Monitoring. **[8]**

b) Describe the concept, power quality conditioners related to smart grid.**[8]**

<div align="center">OR</div>

Q6) a) Describe the power quality issues of grid connected renewable energy sources. **[8]**

b) Explain the power quality audit and its importance in smart grid. **[8]**

<div align="center">OR</div>

Q7) a) Explain the concept and role of Cloud Computing in smart grid. **[9]**

b) Write a note on ZigBee communication in smart grid. **[9]**

<div align="center">OR</div>

Q8) a) Explain the importance of IP Based Protocol in smart grid. **[9]**

b) Write a note on, HAN and NAN. **[9]**

<div align="center">♣ ♣ ♣</div>