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Total Number of Pages : 01

B.Tech
PEL8J001

8th Semester Regular Examination 2018-19

SMART GRID

BRANCH : EEE

Max Marks : 100

Time : 3 Hours

Q.CODE : F036

Answer Question No.1 (Part-1) which is compulsory, any EIGHT from Part-II and any TWO from Part-III.

The figures in the right hand margin indicate marks.

Part- I

- Q1 **Only Short Answer Type Questions (Answer All-10)** (2 x 10)
- a) What is WAN and LAN?
 - b) What are the key components of AMI?
 - c) What are the advantages of smart grid technology?
 - d) What are the components of smart grid?
 - e) Write short note on Indian electric grid system?
 - f) What is V₂G?
 - g) What are the features of SMES?
 - h) What is PDC?
 - i) What do you mean by outage?
 - j) Define demand response?

Part- II

- Q2 **Only Focused-Short Answer Type Questions- (Answer Any Eight out of Twelve)** (6 x 8)
- a) Distinguish between conventional grid and smart grid?
 - b) Explain power quality issues of grid connected renewable energy resources?
 - c) Write short note on wind energy conversion system with suitable block diagram?
 - d) Write a note on protection and control of micro-grid?
 - e) Explain details about feeder automation in smart grid?
 - f) Explain the WAMS component used in smart grid communication?
 - g) Write the various opportunities and changes of smart grid?
 - h) What are the functions of intelligent electronic devices as smart grid components?
 - i) Explain web based power quality monitoring system?
 - j) What is GIS and explain its components?
 - k) Explain the different storage system used in smart grid in details?
 - l) Write a short note on smart home management system?

Part-III

- Q3 **Only Long Answer Type Questions (Answer Any Two out of Four)** (16)
- Write the various components of smart grid and its function details with block diagram?
- Q4 Explain concept of Micro-grid and issues related with utility grid? What is DG and write the advantages and disadvantage of distribution generation? (16)
- Q5 Explain the importance of power quality in smart grid and issues related to integration of renewable energy to main grid? (16)
- Q6 Describe the driving elements of substation automation and functions of substation automation system? Explain about features of smart meters? (16)