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B.TECH.
THEORY EXAMINATION (SEM–VI) 2016-17
SMART ENERGY & DELIVERY SYSTEMS

Time : 3 Hours

Max. Marks : 100

Note : Be precise in your answer. In case of numerical problem assume data wherever not provided.

SECTION-A

- 1 Explain the following :** **(10×2=20)**
- a) Mention the applications of Intelligent Electronic Devices(IED).
 - b) What do you mean by Barriers of Smart Grid?
 - c) Comment on real time pricing of sale and purchase of power.
 - d) What are the Captive power plants?
 - e) What is the role of storage like battery in Smart grid technology?
 - f) Explain the applications of smart sensors.
 - g) What is meant by Geographic Information System?
 - h) Define Outage Management System.
 - i) Give the concept of Phase Shifting Transformers.
 - j) How does a Smart Grid differ from convention distribution grid?

SECTION-B

- 2 Attempt any five of the following :** **(10×5=50)**
- a) FOCUS on Wireless mesh network in smart grid.
 - b) Explain the Resilient and self-healing grid.
 - c) Highlight on role of geographic information system in smart grid, and also give its function.
 - d) Write a note on, "Thin film solar cells"
 - e) Explain, the "Feeder Automation"
 - f) Explain the role of power quality audit in smart grid.
 - g) Explain concept of Plug in Hybrid Electric Vehicles(PHEV)
 - h) Write a note on the present development and international policies in smart grid?

SECTION-C

- Attempt any two of the following :** **(15×2=30)**
- 3 Explain on present development in Smart Grid considering any one case study.
 - 4 Explain the different protection & control issues involved in micro-grid.
 - 5 Write notes on Phase Measurement Unit (PMU).