

No. of Printed Pages : 4
Roll No.

220965B

6th Sem / Electrical

Subject : Smart Grid and Distributed Generation System

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 Which technology helps in managing Distributed Generation resources effectively ? (CO1)

- a) PLC
- b) Micro grid
- c) Diesel generators
- d) Circuit breakers

Q.2 What is the key challenge of integrating Distributed Generation into the grid ? (CO4)

- a) Lack of power generation
- b) Power quality and stability issues
- c) Increased energy wastage
- d) Higher fossil fuel usage

Q.3 Which energy source is commonly used in Distributed generation ? (CO3)

- a) Coal
- b) Hydropower
- c) Solar and wind
- d) Nuclear power

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Q.4 What is Distributed Generation (DG)? (CO3)

- a) Centralized power production
- b) Generation of electricity near the point of use
- c) Power generation by fossil fuel only
- d) Only grid-based power production

Q.5 Which of the following is a key feature of a Smart Grid ? (CO2)

- a) One-way power flow
- b) Self-healing capability
- c) Manual fault detection
- d) Fixed electricity pricing

Q.6 Which communication technology is commonly used in Smart Grids ? (CO2)

- a) Bluetooth
- b) Zigbee
- c) Fiber Optics
- d) Infrared

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 A Smart Grid uses ___ communication to enable two-way data exchange . (CO2)

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- Q.8 The main advantage of Smart Grid over a traditional grid is its ability to ____ and ____ itself (CO1)
- Q.9 The integration of renewable energy sources like ____ and ____ improves the sustainability of Smart Grid. (CO1)
- Q.10 ____ meters allow real-time monitoring of electricity consumption in Smart Grids. (CO4)
- Q.11 Smart Grids only support fossil fuel-based power plants. T/F (CO2)
- Q.12 Distributed Generation increases reliance on centralized power stations. T/F. (CO3)

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

- Q.13 Discuss the concept of a Smart grid. (CO1)
- Q.14 What are the advantages of Smart grid. (CO1)
- Q.15 Discuss about the components of Smart grid Systems. (CO2)
- Q.16 Explain the major benefits of implementing a Smart grid system. (CO2)

- Q.17 Explain the Communication technology of Smart grid. (CO2)
- Q.18 Discuss the main goal of Smart grid. (CO3)
- Q.19 What is the concept of Distributed generation.(CO3)
- Q.20 Write the challenges of Distributed generation System. (CO3)
- Q.21 What is the key function of SCADA in Smart grid. (CO4)
- Q.22 Explain the Electrical energy storage systems.(CO4)

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

- Q.23 Compare the Conventional grid and Smart grid Systems in detail. (CO1)
- Q.24 Explain the function of Smart meter and its benefits. (CO2)
- Q.25 Discuss the Distributed Generation in detail and explain its advantages. (CO4)