

**R16**

**Code No: 138EQ**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year II Semester Examinations, September - 2020**

**SMART ELECTRIC GRID**

**(Electrical and Electronics Engineering)**

**Time: 2 Hours**

**Max. Marks: 75**

**Answer any Five Questions  
All Questions Carry Equal Marks**

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- 1.a) List the advantages of building integrated Power systems.
- b) Explain the importance and need of Smart grid in present scenario. [8+7]
- 2.a) What are plug in hybrid electrical vehicles and explain its significance.
- b) Why a smart grid is called as a “Green Grid”? Explain. [8+7]
- 3.a) Explain the functionalities or capabilities of Energy port in Intelligrid architecture.
- b) List the benefits of equipment drivers in DC power delivery systems. [7+8]
- 4.a) Explain the objectives of SCADA.
- b) Explain how the intelligrid will achieve the goals of Smart grid. [7+8]
- 5.a) Explain in detail about Advanced Whole building control systems used in Dynamic energy management.
- b) List and explain the enabling technologies for demand response. [8+7]
- 6.a) Explain in detail about Smart distributed Energy resources.
- b) Explain how the dynamic energy management infrastructure is applied to a Generic building. [7+8]
- 7.a) Explain how consumers will interact with the Energy Port.
- b) List and explain the factors influencing the market planning frame work for customer acceptance and response. [7+8]
- 8.a) What is a Thermal Energy storage and give its significance.
- b) Explain how innovative lighting technologies help us to achieve Energy efficiency.[7+8]

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