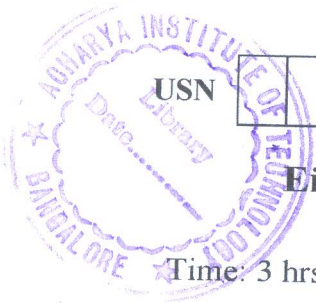


CBCS SCHEME



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17EE831

Eighth Semester B.E. Degree Examination, July/August 2021

Smart Grid

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Define Smart Grid. Compare Today's grid with Smart grid. (08 Marks)
b. What are the functions of Smartgrid components and explain in details. (12 Marks)
- 2 a. Explain with neat diagram Multiagent System Technology (MAS) implementation and Specification. (12 Marks)
b. Explain load flow for Smartgrid design with flow chart. (08 Marks)
- 3 a. Explain the strength and weakness of existing voltage stability analysis tools. (10 Marks)
b. Explain optimizing stability constraint through preventive control of voltage stability with flow chart. (10 Marks)
- 4 a. Explain voltage stability Assessment Techniques. (10 Marks)
b. Explain "Angle Stability Assessment". (10 Marks)
- 5 a. Explain classical optimization methods in detail. (10 Marks)
b. Explain Heuristic optimization in detail. (10 Marks)
- 6 a. Explain general level of automation required for an effective operation of smartgrid. (10 Marks)
b. Explain different types of evolutionary computational techniques in detail. (10 Marks)
- 7 a. What are the sustainable energy options for the Smart Grid? Explain. (10 Marks)
b. Write a short note on:
i) Electric vehicles and plug in Hybrids
ii) PHEV Technology. (10 Marks)
- 8 a. What is interoperability? Explain state of the art and model for interoperability in the Smart Grid Environment. (10 Marks)
b. Explain in detail Smart Grid cyber security. (10 Marks)
- 9 a. Explain Research areas for Smart Grid development. (10 Marks)
b. List out Research and Multidisciplinary Research activities in Smart grid. (10 Marks)
- 10 a. Explain approach for Smart Grid Applications in detail. (10 Marks)
b. What are the challenges faced in Smart transmission and Benefits of Smart transmission. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.