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14EPS422

Fourth Semester M.Tech. Degree Examination, June/July 2018

Smart Grid

Time: 3 hrs.

Max. Marks:100

Note: 1. Answer any FIVE full questions.

- 1 a. Explain how the electric Net is the guiding concepts for Smart Grid with four evolving infrastructures. (10 Marks)
b. With the help of block diagram, list the details of energy savings and Carbon reduction mechanisms. (10 Marks)
- 2 a. With the help of figure, explain overview of the perfect power system. (10 Marks)
b. Explain: (i) Device Level Power System (ii) Distributed Power System. (10 Marks)
- 3 a. List and explain any five potential benefits of D.C power delivery systems. (10 Marks)
b. Explain any Five common devices powered by D.C with equipment compatibility. (10 Marks)
- 4 a. List the five functionalities in power system addressed by architecture of the Smart grid. (10 Marks)
b. Write a note on Communications and distributed computing infrastructure business models. (10 Marks)
- 5 a. Explain Four main components of Dynamic energy management. (12 Marks)
b. Explain role of technology in demand response. (08 Marks)
- 6 a. Define energy port; explain four generic features of the energy port. (10 Marks)
b. List the policies and programs for achieving energy efficiency improvements. (10 Marks)
- 7 a. Write and explain six methods of market implementation. (12 Marks)
b. Draw the block diagram of market planning framework and explain. (08 Marks)
- 8 a. List the technology alternatives for buildings and industry. (10 Marks)
b. List the equipment retrofit and replacement opportunities for motors and drives. (10 Marks)

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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.