CBCS Scheme

USN | | | | | | | | | | |

16EPS424

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

Integration of Renewable Energy

Time: 3 hrs. Max. Marks: 80

Note: Answer any FIVE full questions, choosing one full question from each module.

Module-1

1 a. Explain the DC architecture for design of a 2-MVA PV station. **(08 Marks)**

b. Explain the smart grid split DC bus UPS-PV DG system. **(08 Marks)**

OR

2 a. Explain the AC architecture for design of a 2MVA PV station. **(08 Marks)**

b. Explain the procedure for step-by-step control flow. **(08 Marks)**

Module-2

3 a. Illustrate configurations for two applications of distributed energy station. **(08 Marks)**

b. Explain the procedure for proposed load sharing control algorithm. **(08 Marks)**

OR

4 Classify the types of inverter topology. **(16 Marks)**

Module-3

5 Design the robust servo mechanism voltage controller with the help of block diagram. **(16 Marks)**

OR

6 a. Construct the basic mathematical model of 3ϕ four wire inverter. **(08 Marks)**

b. Explain the process of system model conversion into per unit system. **(08 Marks)**

Module-4

7 Explain:

a. Robust stability

b. μ-analysis **(16 Marks)**

OR

8 a. Explain the control structure for grid connected mode. **(08 Marks)**

b. Explain the process of power regulator in conventional integral control. **(08 Marks)**

Module-5

9 Explain robust stability analysis using structured singular value. **(16 Marks)**

OR

10 Explain the DG system analysis and control strategy. **(16 Marks)**

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