

USN

--	--	--	--	--	--	--	--	--	--

15EE833

Eighth Semester B.E. Degree Examination, July/August 2022
Integration of Distributed Generation

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 properties of wind power and power distribution as a function of wind speed. (10 Marks)
b. Explain the properties of the solar power. (06 Marks)

OR

- 2 a. Explain the properties of the large hydropower. (08 Marks)
b. List the different reason for new type of power production in power system. (08 Marks)

Module-2

- 3 a. Explain direct machine coupling and full power electronics coupling with the grid. (08 Marks)
b. Discuss about distributed power electronics interface. (08 Marks)

OR

- 4 a. Write a note on hosting capacity approach. (08 Marks)
b. Write a note on voltage and current quality concerned to distributed generation. (08 Marks)

Module-3

- 5 a. Explain about advanced protection schemes used in distributed generation. (08 Marks)
b. Explain the basic principle of voltage control in a distribution network. (08 Marks)

OR

- 6 a. Explain two-stage boosting numerical approach to voltage variations. (08 Marks)
b. Explain tap changers with line-drop compensation with an example. (08 Marks)

Module-4

- 7 a. Explain how hosting capacity can be increased by dynamic voltage control. (08 Marks)
b. Discuss about the simplified schematic of VSC-DG overall control system. (08 Marks)

OR

- 8 a. Explain the fast voltage fluctuations in wind and solar power. (08 Marks)
b. Explain the voltage unbalance in large single phase generators. (08 Marks)

Module-5

- 9 a. Explain about the balanced and unbalanced voltage dips in synchronous machines. (08 Marks)
b. Explain the low frequency harmonics in induction and synchronous generators. (08 Marks)

OR

- 10 a. Explain the concept of unbalanced voltage dips in induction generator. (08 Marks)
b. Explain how hosting capacity can be increased by strengthening the grid and with emission limits for generator units. (08 Marks)

* * * * *