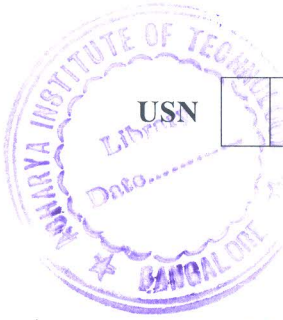


CBCS SCHEME



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15EE833

Eighth Semester B.E. Degree Examination, Aug./Sept.2020 Integration of Distributed Generation

Time: 3 hrs.

Max. Marks: 80

- Note: i) For Regular Students: Answer any FIVE full questions irrespective of modules.
ii) For Arrear Students : Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

- 1 a. Explain briefly how power is produced from wind and also list out the properties of wind power. (08 Marks)
- b. Discuss the following aspects with respect to solar power generation,
(i) Space requirements. (08 Marks)
(ii) Photovoltaics.
- 2 a. Discuss the following sources of energy,
(i) Tidal power (08 Marks)
(ii) Wave power. (08 Marks)
- b. Explain the properties and options for space heating aspects of combined heat and power generation. (08 Marks)

Module-2

- 3 a. Explain the different configurations for full power electronics of DG with grid. (08 Marks)
- b. Explain the impact of Distributed Generation on the power system. (08 Marks)
- 4 a. Write a note on power quality concerned to distributed generation. (08 Marks)
- b. Define Hosting capacity. Discuss the different types of hosting capacity approaches. (08 Marks)

Module-3

- 5 a. Explain the advanced protection schemes used during connecting large generator unit into the network. (08 Marks)
- b. Briefly explain, how voltage magnitude variations impacts the design of Distributed Generation. (08 Marks)
- 6 a. Explain the two stage and single stage boosting numerical approaches to voltage variations. (08 Marks)
- b. Explain the basic design rules of distribution feeder. (08 Marks)

Module-4

- 7 a. Explain the statistical approach to hosting capacity. (08 Marks)
b. Discuss how strong feeder and over voltage curtailment increase hosting capacity. (08 Marks)
- 8 a. Explain how voltage unbalance occurs with connection of distributed generation. (08 Marks)
b. Explain the effects fast voltage fluctuations in solar and wind power generations. (08 Marks)

Module-5

- 9 a. Discuss the parallel and series resonance in distributed generator connected voltage network. (08 Marks)
b. List the causes of voltage dips in Distributed Generation. (08 Marks)
- 10 a. Summarize high frequency distortion as power quality disturbance. (08 Marks)
b. Write short note on:
(i) Strengthening the grid.
(ii) Emission limits for generator units. (08 Marks)
