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Total No. of Questions : 08

M.Tech. (EE) (2018 Batch) (Sem.–2)

DISTRIBUTED GENERATION

Subject Code : MTEE-204A-18

M.Code : 76106

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWELVE marks.**

1. Justify why distribution generation is important in current power system. What is need of integration of distribution generation? How distribution generation is different from conventional generation?
2. What is a power converter? Give the reasons leading to the widespread use of power electronic converters. Discuss the different topologies of inverters in grid connected mode.
3. a) What are the different voltage control techniques associated with distributed generation?
   b) Explain with an example, what is reactive power control?
4. What is protecting relaying system? What is the different impact of DGs on dynamic stability of the existing distribution system?
5. What is power quality? What are the different power qualities issues associated with the distribution generation? Explain harmonics with the help of suitable example.
6. What is a micro grid? Explain the difference between a conventional power plant and micro grid.
7. Explain with neat and clean diagram typical micro grid configuration. Explain the functions of central controller in micro grid in following modes.
   a) Grid connected mode.
   b) Islanded mode.
8. What are the different transients associated with the microgrids? How microgrids can be protected?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.

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