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.**
3. **Unless stated otherwise, the symbols have their usual meanings in context with subject. Assume suitably and state, additional data required, if any.**

1. Define Distributed generation. Explain the different stages of electric power planning.

2. Formulate a optimal DG placement problem with fixed DG size. Assume every bus to be a potential bus for DG placement. Explain the objective function and all the technical constraint associated.

3. Discuss the technical impact of DGs on transmission system. Explain the reliability indices of DG based power system.

4. Explain the various reactive power control techniques of grid in the presence of DG.

5. Explain in details long term planning. What is integrated resource planning?

6. Write short note on following :

   a) DG-Grid integration operation.

   b) Power electronic interfacing with microgrid

7. What is microgrid? Explain the analytical approach to solve modeling of microgrid with multiple DG penetration.

8. Explain the transients and protection scheme of microgrid.

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.