Roll No. | | | | | | | | | | | | | Total No. of Pages : 01

Total No. of Questions : 8

M.Tech. (Power System) (2018 Batch) (Sem.–2)

DIGITAL PROTECTION OF POWER SYSTEM

Subject Code : MTPS-202-18

M.Code : 76133

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) What are digital relays? How are these different from electromechanical relays? How is differential protection realized with the use of digital relays?

2) What are the roles of Numerical Differentiation and Curve Fitting in case of digital protection schemes?

3) a) What are sample and hold circuits? Why are these important in digital protection circuits?

   b) What are the various types of analog to digital converters? Explain, in detail.

4) Discuss Mann and Morrison algorithm used in digital protection system of power system.

5) Draw and explain the working and characteristics of Impedance and Admittance relays. How are these characteristics realized in digital relays?

6) What are the various digital filtering techniques used? Discuss the applicability and limitation(s) of each technique.

7) a) Differentiate between: Fourier series and Fourier transform.

   b) State and prove the 'Sampling Theorem'.

   c) Discuss atleast three recent advances in digital protection of power systems.

   d) Draw the flowchart of Least squares based Fourier algorithm.

8) Write short notes on the following :

   a) Walsh function based algorithm

   b) Finite difference techniques

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.