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Total No. of Pages: 01

Total No. of Questions: 08

**M.Tech. (Power System) (Sem. – 2)**  
**DIGITAL PROTECTION OF POWER SYSTEM**

**Subject Code: MTPS-202-18**

**M Code: 76133**

**Date of Examination : 20-12-2022**

**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. Explain performance and operational characteristics of digital protection. What are the advantages of digital protection relays over electromechanical relays.
2. a) Define Walsh function and give its properties.  
b) Draw the digital relay as a unit diagram and explain.
3. Explain the typical model of A/D converter for the digital protection scheme.
4. a) How sampling is done for digital power system protection. Draw the spectrum of a sampled signal.  
b) Explain the discrete Fourier transform technique in digital protection.
5. Give basic approach and fractional cycle window algorithm.
6. Explain the distance protection algorithm based on travelling waves.
7. a) Write some recent advances in digital protection of power system.  
b) Explain Finite difference techniques.
8. Explain flux-restrained current differential scheme of the transformer.

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