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**SUBJECT CODE NO: E-8030**  
**FACULTY OF ENGINEERING AND TECHNOLOGY**  
**M.E. (Electrical Power Systems) Examination Nov/Dec 2017**  
**Digital Protection of Power System**  
**(Revised)**

**[Time: Three Hours]**

**[Max.Marks:80]**

N.B Please check whether you have got the right question paper.

- N.B
- i) Solve any two questions from each section.
  - ii) Assume suitable data, draw neat diagram wherever necessary.

**Section-A**

- Q.1
- a) Explain induction disc types of over-current relay with neat diagram. What are the disadvantages of induction disc types of relay? 10
  - b) Compare solid state relay with electromagnetic relay. With block diagram explain working of solid state relay. 10
- Q.2
- a) Explain solid state protection scheme for transformer with neat diagram. 10
  - b) Discuss the theory and basic principle of digital protection of a transmission line. 10
- Q.3
- a) Explain 8085 microprocessor in detail. 10
  - b) Explain microprocessor based percentage differential relay scheme for the protection of a transformer. 10

**Section – B**

- Q.4
- a) Explain DSP 320 series IC with its features and basic architecture. 10
  - b) Explain the process of computing Fourier transform in discrete digital domain. 10
- Q.5
- a) Draw and explain PT modeling with reference to standards. 10
  - b) Explain multifunction numerical relay. Write advantages and application of numerical relay. 10
- Q.6
- a) Explain over voltage microprocessor based relay. Draw interfacing diagram. 10
  - b) Write the advantages of digital protection. What are the requirements of digital protection system? 10