M.E. Second Semester (Electrical (Electronics & Power) Engineering) (New-CGS)

# 13320 : Digital Protection of Power System : 2 EEPME 1

P. Pages : 2 | **AW - 3853**

Time : Three Hours | Max. Marks : 80

* 1 0 9 7 *

Notes : 1. Answer **Three** question from Section A and **Three** question from Section B.
2. Due credit will be given to neatness and adequate dimensions.
3. Assume suitable data wherever necessary.
4. Illustrate your answer necessary with the help of neat sketches.

## SECTION – A

**1.** a) Explain numerical relay with schematic. **7**

b) Explain basic block diagram of digital relay. **7**

**OR**

**2.** a) Explain in detail analog & digital multiplexer. **7**

b) What is the function of filters in digital protection scheme? Explain its types. **7**

**3.** a) Explain in detail protection of an interconnected system. **7**

b) Explain time multiplier setting and plug multiplier setting in current relay. **6**

**OR**

**4.** a) Give an estimate of relay operating time. **6**

b) Draw and explain flow chart for relay coordination. **7**

**5.** a) Explain in detail induction type cylinder frequency relay. **7**

b) State and explain rate of frequency decline. **6**

**OR**

**6.** a) Explain microprocessor based frequency Relay. **7**

b) Explain types of fault in overhead transmission line. **6**

## SECTION – B

**7.** a) Explain. **7**
a) Auto Reclosing b) Multi shot reclosing relay.

b) Explain problems associate with relay during compensation. **7**

**OR**

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|---|---|---|---|
| **8.** | a) | Explain in detail reclosing relay and their operation. | 7 |
| | b) | Explain different precaution to be follow during re-closing. | 7 |
| **9.** | a) | Explain digital protection of EHV transmission line based upon travelling wave. | 7 |
| | b) | Explain concept of adaptive relaying. | 6 |

**OR**

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|---|---|---|---|
| **10.** | a) | Explain series compensated line protection. | 7 |
| | b) | What are recent developments in relaying principle. | 6 |
| **11.** | a) | Explain in detail half cycle window algorithm. | 7 |
| | b) | State the implementation of integral LSQ fit method. | 6 |

**OR**

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|---|---|---|---|
| **12.** | a) | Explain digital harmonic filtering. | 7 |
| | b) | Explain with example Fourier analysis techniques for digital relay. | 6 |

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