| GUJARAT TECHNOLOGICAL UNIVERSITY ME - SEMESTER- I (OLD course) • EXAMINATION – SUMMER 2015 | | | |
|---|----------------|---|----------|
| Subject Code: 710707 Date:16/ | | | 15 |
| Sub | ject Na | ame: Modern Power System Protection | |
| Time: 10:30 am to 1:00 pm Total Mai | | | 70 |
| Inst | ruction | 18: | |
| | 1. 2. 3. | Attempt all questions. Make suitable assumptions wherever necessary. Figures to the right indicate full marks. | |
| Q.1 | (a) | State the advantages of digital relays with reference to electromechanical, static | 07 |
| | (b) | and microprocessor based relays. What is LINKNET ? Draw flow chart for relay co-ordination and primary/backup relay pair. | 07 |
| Q.2 | (a) | Discuss the Aliasing Effect in Numerical relay and how to overcome the Aliasing effect with example or diagram. | 07 |
| | (b) | Explain the Sampling theorem with the necessary condition. OR | 07 |
| | (b) | With the help of block diagram, explain the various components of digital relay. | 07 |
| Q.3 | (a) (b) | Explain the working of single-shot solid state reclosing relay. What do you mean by õSynchronism Checkõ. Explain with suitable diagram OR | 07 07 |
| Q.3 | (a) | Explain following terms with reference to Reclosing relay. (1) Instantaneous-Trip Lockout. (2) Selective reclosing | 07 |
| | (b) | Explain considerations for applications of instantaneous reclosing. Also state factors governing application of reclosing. | 07 |
| Q.4 | (a) (b) | Explain frequency response during overload. Explain concept of Adaptive relay. | 07 07 |
| | | OR | |
| Q.4 | (a) | Explain criteria which must be considered during a design of load-shedding schemes for specific systems. | 07 |
| | (b) | Explain basic working principle of relays based on Travelling Waves for internal and external faults. | 07 |
| Q.5 | (a) | Explain the of voltage and current inversions on impedance measured by the relay for midline series compensation and end-of-line series compensation. | 07 |
| | (b) | Why does distance relay overreaches and under reaches in case of the protection of series compensated transmission lines? OR | 07 |
| Q.5 | (a) | Explain relaying problems associated with series compensated lines | 07 |
| | (b) | Explain Full cycle window algorithm with schematic diagram. | 07 |
