APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

SEVENTH SEMESTER BTECH DEGREE (HONS) EXAM DEC 2019

Course code: 04EE6411

Course name: Advanced Relaying and Protection

Max. Marks: 60 **Duration: 3 Hours**

PART A

Answer All Questions

Each question carries 3 marks

1. What are the main functions of protective relaying

2. What is a numerical relay?. What are its advantages over conventional type relays.

3. An overcurrent relay is connected to of 400/5 CT and set at 150% and if the fault current on the primary side is 2400A, find PSM.

4. How the CTs on the primary and secondary sides of a power transformer are connected & Why?

5. Draw the block diagram of numerical relays.

6. Explain the significance of system grounding.

7. Discuss the need of auto reclosing.

8. Explain about commissioning test of relays.

PART B

Each question carries 6 marks

9. Explain in detail about the transient behavior of CT.

OR

10. a) Explain the various zones of protection of power system.

b) Explain about primary and back up protection. What are the various methods of providing back-up protection?

11. Explain in detail about the operating principle and construction of electromagnetic induction relays.

OR

12. Discuss how an amplitude comparator can be converted to a phase comparator and vice versa.

13. Explain the principle of percentage biased differential relay. Why is it called so?

OR

14. Explain the principle of operation and constructional details of any type of distance relay.

15. Explain what is magnetizing inrush current? Discuss the protective scheme employed for protection of transformer against magnetizing inrush current.

OR

16. Explain how incipient faults can be detected in transformers

17. Explain the working of microprocessor based over-current relay with the help of block schematic diagram and program flowchart.

OR

18. Which are the operating principles used in wire pilot schemes? Discuss the transley scheme of wire pilot protection.

19. Explain SCADA based protection system employed in power system.

OR

20. Discuss various steps in formulating load shedding scheme.