

G 992

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Reg. No.....

Name.....

B.TECH. DEGREE EXAMINATION, MAY 2014

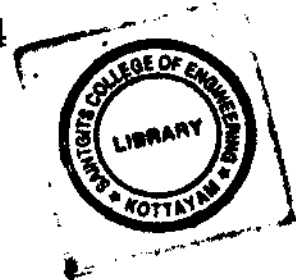
Eighth Semester

Branch : Electrical and Electronics Engineering

EE 010 802 – SWITCH GEAR AND PROTECTION (EE)

(New Scheme–2010 Admissions)

[Regular]



Time : Three Hours

Maximum : 100 Marks

Part A

Answer all questions.

Each question carries 4 marks.

1. Enumerate various types of ratings of circuit-breaker.
2. What are the measures taken to reduce the phenomenon of current chopping in a circuit-breaker?
3. What is primary and back up protection?
4. Explain the operating principle of induction relays.
5. Mention the advantages and disadvantages of static relays.
6. Explain the applications of microprocessor based relays.
7. Explain how a synchronous motor is protected against loss of synchronism.
8. Explain Merz price protection scheme in transformer.
9. What are the causes of over voltages?
10. What is the necessity of protecting electrical equipment against travelling waves?

(10 × 4 = 40 marks)

Part B

Answer all questions.

Each question carries 12 marks.

11. Discuss the operating principle of SF6 circuit breaker. What are its advantages over other type of circuit breakers?

Or

12. Explain with a neat sketch construction and working of minimum oil circuit breaker. Also give its merits and demerits.

Turn over

13. Explain the principle of distance relays stating clearly the difference between impedance relay, reactance relay and mho relay. Indicate the difference on R-X diagrams and show where each type is suitable.

Or

14. Describe the construction and operation of an inductive type directional over current relay with a neat diagram. Also explain its operational characteristics.
15. Draw the block diagram of microprocessor based over current relay and explain the working of it in brief.

Or

16. Draw the block diagram of a static over current relay and explain its working. List the advantages of static relays.
17. Describe the differential pilot wire method of protection of feeders.

Or

18. With the aid of a neat schematic diagram describe the percentage differential protection scheme of a transformer.
19. What protective measures are taken against lightning overvoltage?

Or

20. Describe in brief the protective devices used for protection of equipments against travelling waves.

(5 × 12 = 60 marks)

