

T.E. (Electrical) Sem - V CBS GS

(Time: 3 Hours)

[Total marks: 80]

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N.B:- (1) Question 1 is compulsory

(2) Solve any three questions from remaining five questions.

(3) Figures to the right indicate full marks.

Q 1. Answer the following questions.

- a) Explain the importance of different types of instrument transformers
- b) What is the role of isolator in power system? Explain.
- c) What are the difficulties associated with differential protection
- d) Explain primary, back up and remote backup protection of relay

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Q 2 a) What is working principle of distance relays. Differentiate between different types of distance relays. 10

Q 2 b) Explain with neat diagram construction and working principle of MOCB. 10

Q 3 a) Explain construction & working of Air circuit breaker. 10

Q 3 b) Name the different types of fault that occur in transformer. Explain bucholz relay for protection of transformer. 10

Q 4 a) Explain with neat construction any one type of Induction relay. 10

Q 4 b) Explain desirable qualities of protection scheme required for efficient operation 10

Q 5 a) What are the different types of fault that occur in Induction motor. Explain motor protection against single phasing. 10

Q 5 b) Explain advantages of static relay over electromagnetic relays. 10

Q 6 a) Discuss various properties of SF<sub>6</sub> gas that make it suitable for arc quenching and explain SF<sub>6</sub> CB in detail with suitable diagram. 10

Q 6 b) Explain REF protection for alternator. How 100% winding is protected in an alternator. 10