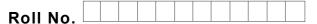
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B.Tech.(EE) (Electrical & Electronics Engg.) (2012 Onwards) (Sem.–6) POWER SYSTEM-II (Switch gear & Protection) Subject Code : BTEE-602 M.Code : 71148

Time: 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

- 1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
- 2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
- 3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Answer briefly :

- (a) Write the importance of ground wire.
- (b) Write the difference between the fuse and circuit breaker.
- (c) Define the operating time of circuit breaker.
- (d) Enumerate the concept of ring feeder.
- (e) List out the different types of distance relay.
- (f) What do you mean by inrush phenomenon in Transformation?
- (g) What is a directional relay?
- (h) What are the causes of over voltages?
- (i) What is meant by current chopping?
- (j) Define plug setting multiplier.



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SECTION-B

- 2. Briefly describe the different types of testing schemes of circuit breakers.
- 3. Explain the method to overcome the magnetizing current inrush using Harmonic Restraint method.
- 4. Explain the directional unit incorporated in an over current relay with neat Diagram.
- 5. Describe the principle of high impedance differential protection based on Voltage drop.
- 6. Draw the block diagram of static definite time over current relay and discuss its operation.

SECTION-C

- A generator is protected by restricted earth fault protection. The generator ratings are 13.2 kV, 10 MVA. The percentage of winding protected against phase to ground fault is 85%. The relay setting is such that it trips for 20% out of balance. Calculate the resistance to be added in the neutral to ground connection.
- 8. A 3 phase 200 KVA, 11/0.4 kV transformer is connected as delta/ star. The protective transformer on the 0.4 kV side have turn ratio of 500/5. What will be the CT ratio on the high voltage side? Also obtain the circulating current when the fault of 700 A of the following types occur on the low voltage side
 - (a) Earth fault within the protective zone
 - (b) Earth fault outside the protective zone.
- 9. Discuss the phenomenon of :
 - (a) Current chopping
 - (b) Capacitive current breaking
 - (c) Resistance switching
 - (d) Restriking voltage.

NOTE : Disclosure of identity by writing mobile number or making passing request on any page of Answer sheet will lead to UMC against the Student.

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