Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(EE) PT (Sem.–7)

POWER SYSTEM II (SWITCH GEAR & PROTECTION)

Subject Code : BTEE-602

M.Code : 74091

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS 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. Write briefly :

a. What are the causes of over voltages in a transmission line?

b. What are main advantages and disadvantages of HRC fuses?

c. Enumerate the advantages of static relays.

d. Write the function of restricted earth fault relay.

e. What is current grading of relays?

f. Explain the term electronegativity for SF_6 gas.

g. Differentiate isolator and circuit breaker.

h. What do you meant by current chopping?

i. Define the term Arcing Ground.

j. Explain Peterson Coil.

SECTION-B

2. Compare the time-current characteristics of inverse, very inverse and extremely inverse over current relays. Discuss their area of application.

3. Discuss the influence of fault resistance and power swings on the performance of different types of distance relays.

4. What is resistance switching? Derive the expression for critical resistance.

5. Explain negative sequence relay.

6. Describe the construction and principle of operation of expulsion type lightning arrester.

SECTION-C

7. Explain the properties of vacuum, arc phenomenon, constructional details, working principle, merits and applications of vacuum circuit breakers.

8. Explain different types of Bus-bar arrangements in substation with the help of single line diagram.

9. (a) What type of a protective device is used for the protection of an alternator against overheating of its (i) stator (ii) rotor? Discuss them in brief.

   (b) A three phase of 220/11000 line volts is connected in star/delta. The protective transformers on 220V side have a current ratio of 600/5.What should be the current transformer ratio on 11000V side.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.