Roll No. ..... Total Pages : 2

007707

Dec. 2021

B.Tech. (EL) VII SEMESTER

Power System Protection (ELPE-711)

Time : 90 Minutes] [Max. Marks : 25

Instructions :

1. *It is compulsory to answer all the questions (1 mark each) of Part-A in short.*
2. *Answer any three questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART - A

1. (a) What is back up protection? (1)

(b) What are the various faults to which alternator is likely to be subjected? (1)

(c) What do you mean by bus zone protection? [1]

(d) What are the features of directional relay? (1)

(e) Why neutral resistor is added between neutral and earth for an alternator? (1)

(f) State the errors in CT. (1)

(g) Why is power system divided into protective zones? (1)

(h) Why is carrier current protection used? (1)

(i) Define RRRV. (1)

(j) What is the difference between surge arrestor and lightening arrestor. (1)

PART - B

2. (a) What are the various types of an over current relay? How is the plug setting and time setting done? (3)

(b) Write a short note on Buchholz relay. (2)

3. (a) Explain differential protection of a transformer. (2)

(b) Derive equations for sequence currents in case of double line to ground fault. (3)

4. Explain the construction, principle of operation and torque equation of a MHO relay. (5)

5. (a) Provide a frequency domain explanation of the aliasing phenomenon. (3)

(b) Discuss the protection employed against loss of excitation of an alternator. (2)

6. (a) Write a note on EMTP (Electromagnetic Transients Programs). (2)

(b) Discuss the effect of power surges on the performance of different types of distance relays. (3)