

B.Tech. (Sem. - 6th)

POWER SYSTEM - II (Switchgear & Protection)

SUBJECT CODE : EE - 306

Paper ID : [A0421]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours

Maximum Marks : 60

Instruction to Candidates:

- 1) Section - A is **Compulsory**.
- 2) Attempt any **Four** questions from Section - B.
- 3) Attempt any **Two** questions from Section - C.

Section - A

Q1)

(10 × 2 = 20)

- a) What is meant by busbar, feeder and distributor?
- b) Define the term 'fusing factor' and give its significance.
- c) What is meant by resistance switching in circuit breakers?
- d) What measures could be taken to reduce current chopping in circuit breakers?
- e) Why IDMT relays are widely used for overcurrent protection?
- f) What is Buchholz relay?
- g) List merits and demerits of Gas relays.
- h) Give advantages of Neutral grounding system.
- i) Give characteristics of an ideal surge diverter.
- j) Mention importance of Ground wire.

Section - B

(4 × 5 = 20)

Q2) Discuss in brief the components used in distribution substation.

Q3) Describe the construction, operation and applications of vacuum circuit breaker.

Q4) Critically compare characteristics of various distance relays.

Q5) Discuss the protection employed against loss of excitation of an alternator.

Q6) Explain differential scheme for bus zone protection.

Section - C

(2 × 10 = 20)

Q7) (a) In what way is distance protection superior to overcurrent protection for the protection of transmission lines?

(b) Discuss carrier current protection of lines.

Q8) Briefly discuss the various relaying schemes used for protection of modern transformers.

Q9) Write short notes on any two of the following :

(a) Neutral grounding.

(b) Valve type lightning arrester.

(b) Translay relay.
