

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (EE)(Part Time) (Sem.–6)

POWER ELECTRONICS

Subject Code : BTEE-504

M.Code : 72789

Date of Examination : 02-07-22

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. Answer briefly :

- a) What is TRIAC?
- b) Draw characteristics of DIAC.
- c) What is Commutation?
- d) What is the difference between single phase and three phase?
- e) What do you understand from resistive and inductive loads?
- f) Where is the utilization of chopper?
- g) Differentiate between half wave and full wave rectifier.
- h) Differentiate instantaneous output voltage and average output voltage.
- i) What is the significance of Pulse width modulation?
- j) What is the difference between Cycloconverter and Converter?

SECTION-B

2. Explain the turn on methods of a thyristor with a neat circuit diagram along with waveform. Why do we need these techniques to turn thyristor on? Comment.
3. How does the class A commutation works? Explain with a circuit diagram.
4. How does different types of Choppers classified? Explain the working of voltage commutated chopper.
5. What are the advantages and disadvantages of cycloconverters? Discuss working of single phase cycloconverter.
6. Discuss the working /functioning of
 - a) UJT and
 - b) SUS

SECTION-C

7. What is the significance of the VI characteristics of SCR? How does the firing circuits work? Discuss types of firing circuits and explain working of any one firing circuit.
8. Explain the basic circuit, working and principle of dual converter. Also, discuss circulating current mode and circulating mode of operation.
9.
 - a) What is inverter? Discuss the working of McMurray half bridge inverter.
 - b) How the over voltage and over current protection of SCR is done? Discuss.

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.