BACHELOR OF TECHNOLOGY (C.B.C.S.) (2014 COURSE)
B.Tech.Sem - V E & TC : : SUMMER - 2022
SUBJECT : POWER DEVICES & MACHINES

Day : Thursday
Date : 2/6/2022

S-13359-2022

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the right indicate **FULL** marks.
3) Use of Non-programmable **CALCULATOR** is allowed.
4) Assume suitable data if necessary.

Q.1 Explain power diodes with respect to its construction, switching characteristics and line frequency. **(10)**

OR

With the help of circuit diagram explain Gate drive circuit for MOSFET and IGBT. **(10)**

Q.2 Explain triggering and isolation techniques of SCR, also explain two transistor analogy of SCR. **(10)**

OR

Explain GTO with respect to construction, operational characteristics and applications. **(10)**

Q.3 For higher power application why three phase system is preferred over a single phase? Also explain the effect of freewheeling diode. **(10)**

OR

With the help of circuit diagram and operational waveform explain single phase full converter for RL load. **(10)**

Q.4 Describe DC chopper with all its control strategies and operational results. **(10)**

OR

Explain single phase bridge inverter for RL load with its working principle and operational results. **(10)**

Q.5 Write a note on DC Motor in detail with its construction, working principles and applications. **(10)**

OR

Explain Induction Motor with respect to construction, working principles and applications. **(10)**

Q.6 Describe ON line UPS and OFF line UPS in detail. **(10)**

OR

Write different speed control techniques in industrial applications. **(10)**

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