

No. of Printed Pages : 4

Roll No.

171043

4th Sem. / Electronics & Common ECE

Subject : Power Electronics

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Objectives questions. All questions are compulsory (10x1=10)

- Q.1 Draw symbol of SCR (CO-1)
- Q.2 SCR has _____, _____ and _____ as terminals. (CO-1)
- Q.3 The value of Latching current is less than Holding Current (True/False) (CO-1)
- Q.4 Draw the symbol of UJT (CO-2)
- Q.5 SCR has _____ number of Junctions. (CO-1)
- Q.6 In a dual converter if one operates in _____ mode than other operates in _____ mode. (CO-7)

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Q.7 Cycloconverter Converts _____ to _____ (CO-7)

Q.8 The device which converts DC to AC is called. (CO-7)

Q.9 Expand UPS (CO-6)

Q.10 Give one applications of Chopper. (CO-7)

SECTION-B

Note: Very Short answer type questions. Attempt any ten parts 10x2=20

- Q.11 Define Duty Cycle. (CO-3)
- Q.12 Write 4 ratings of SCR (CO-1)
- Q.13 Define the term String Efficiency (CO-1)
- Q.14 Define Commutation (CO-1)
- Q.15 What is the function of Freewheeling Diode (CO-4)
- Q.16 What is Triggering in SCR. (CO-1)
- Q.17 Draw VI Characteristics of TRIAC (CO-2)
- Q.18 Draw the symbol of UJT (CO-2)

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- Q.19 Write the relation between the firing angles of two converters of a dual converter. (CO-7)
- Q.20 Write two methods of control speed of Electric Drives. (CO-8)
- Q.21 Write types of HVDC (CO-6)
- Q.22 Why heat sinks are used. (CO-1)

SECTION-C

Note: Short answer type questions. Attempt any eight questions. 8x5=40

- Q.23 Explain the working of two transistor analogy of SCR (CO-1)
- Q.24 Explain how natural commutation is different from forced commutation. (CO-1)
- Q.25 Draw and explain the working of class A chopper with diagram. (CO-7)
- Q.26 Write four applications of SCR. (CO-1)
- Q.27 Explain the principle of operation of HVDC (CO-6)
- Q.28 Draw the block diagram of online UPS (CO-6)

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- Q.29 Explain UJT as Relaxation Oscillator (CO-3)
- Q.30 Explain the working of dual Converter. (CO-7)
- Q.31 State four advantages of AC Drives (CO-8)
- Q.32 Explain the working of series Inverter. (CO-7)

SECTION-D

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.33 Draw the block diagram of UPS and explain the working of each block also write difference between online UPS and Offline UPS. (CO-6)
- Q.34 What do you understand by term controlled rectifier. Explain the working of full wave controlled center tapped rectifier with RL load with the help of wave forms. (CO-4)
- Q.35 Explain the working of SCR as light intensity control with the help of circuit diagram. (CO-2)
- Q.36 What is Cycloconverter draw and explain center tapped Cycloconverter as step up Cycloconverter. (CO-7)

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