

- Q.27 Describe the concept of protection of thyristor.
 Q.28 Describe briefly the slip control of AC drive.
 Q.29 List five applications of dual converters.
 Q.30 Define UPS and explain the working of on-line UPS.
 Q.31 Explain the importance of heat sink and criterion of selection for thyristor.
 Q.32 List five instructions for maintenance and care of lead Acid batteries.
 Q.33 List five advantages of SMPS over conventional power supply.
 Q.34 Write a short note on CTV.
 Q.35 Write a short note on 'Electric drive'.

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 Draw VI characteristics of SCR. Explain the construction and working of SCR.
 Q.37 Explain the working of a current source series inverter with the help of circuit diagram. Write the drawbacks of series inverter.
 Q.38 Explain the speed control method for DC motor using dual converter with proper circuit diagram.

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5th Sem / Elect, Power Station Engg., Elect & Eltx Engg.

Subject:- Industrial Electronics and Control of Drives

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 An SCR is a _____ switch
 a) two-layer two-junction device
 b) three-layer two--junction device
 c) Four-layer three- junction device
 d) Four-layer four-junction device
- Q.2 Which device can be used in a chopper circuit?
 a) BJT b) MOSFET
 c) GTO d) All of the above
- Q.3 A cyclo-converter is a _____
 a) one stage power converter
 b) one stage voltage converter
 c) one stage frequency converter
 d) None of the above
- Q.4 What are the terminals of a unijunction transistor?
 a) Collector, Base and Emitter
 b) Emitter, Base 1 and Base 2
 c) Gate, Drain and Source
 d) Gate, Drain, Body and Source

- Q.5 If the firing angle in an SCR rectifier is decreased, the output is
 a) increased b) decreased
 c) maximum d) remain unaffected
- Q.6 Inverter converts
 a) AC to DC b) DC to AC
 c) DC to DC d) AC to AC
- Q.7 Which method is used to control the speed of DC shunt motor above normal speed?
 a) flux control method
 b) armature voltage control method
 c) both option (1) & (2)
 d) None of the above
- Q.8 SMPS is used for
 a) obtaining controlled ac power supply
 b) obtaining controlling dc power supply
 c) storage of dc power
 d) switch from one source to another
- Q.9 ADIAC is turned on by
 a) Breakover voltage b) Gate current
 c) Gate voltage d) None of the above
- Q.10 A DC Chopper controls the average voltage across the DC motor by controlling
 a) input voltage
 b) field current
 c) Line current
 d) duration of Ton and Toff

SECTION-B

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

- Q.11 List any one application of TRIAC.
- Q.12 Draw symbol of SCR.
- Q.13 Define Electric drive.
- Q.14 A freewheeling diode is used in a controlled rectifier in case of _____ load.
- Q.15 Define heat sink.
- Q.16 Define inverter.
- Q.17 Write two applications of cyclo-converter.
- Q.18 In which quadrant class D chopper operates?
- Q.19 Name any one device that belongs to Thyristor family.
- Q.20 Write full form of SMPS.

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Draw the VI characteristics of UJT and explain its working.
- Q.22 Explain two transistor analogy of an SCR.
- Q.23 Explain the circuit diagram for single phase, half controlled half wave rectifier for resistive load.
- Q.24 Explain the working of step-down chopper with the help of circuit diagram.
- Q.25 Define cyclo-converter. Describe basic principle of its principle.
- Q.26 Explain fan speed control circuit using Triac.