Q.27 Differentiate between P type and N type semiconductor.

Q.28 Write any five applications of servo motor.

Q.29 Explain working principle of transformer with the help of a diagram.

Q.30 Explain star-delta starter used for starting of three phase induction motor along with neat diagram.

Q.31 Describe different losses in a transformer.

Q.32 What are the advantages of electrical energy over solar energy?

Q.33 Compare high voltage and low voltage distribution system.

Q.34 Write any five applications of single phase induction motor.

Q.35 Explain the function of wiring system involved in domestic electric circuit.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Explain characteristics and applications of thyristors in detail.

Q.37 What is earthing? Explain various types of earthing.

Q.38 Explain construction and working of three phase electric motor with the help of neat diagram.

Roll No. .....

1st Sem / Branch : Mech. Engg.MSIL

Subject:- Basics of Electrical and Electronics Engineering

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 The standard power supply frequency in India is

a) Zero b) 25 Hz

c) 50 Hz d) f Hz

Q.2 Which of the following is not a type of energy source?

a) Battery b) Solar cell

c) Rheostat d) Generator

Q.3 An ammeter is an electrical instrument used to measure

a) Voltage b) Current

c) Power d) Energy

Q.4 The commercial unit of electrical energy is _____

a) Kilowatt-hour b) Watt

c) Kilowatt d) Joule

Q.5 Core of the transformer is made of _____

a) Cast iron b) Aluminum

c) Silicon steel d) Cast steel

Q.6 What type of coils are used for winding the single phase induction motor generally?

a) Rectangular coils b) Square coils

c) Circular coils d) None

Q.7 Majority charge carriers of p type semiconductor is _____

a) Holes b) Electrons

c) Both d) None

Q.8 A _____ is a heavily doped semiconductor device that is designed to operate in the reverse direction.

a) Ideal diode b) Tunnel diode

c) Photo diode d) Zener diode

Q.9 The primary function of a fuse is to _____

a) Open the circuit

b) Protect the appliance

c) Protect the line

d) Prevent excessive currents flow through the circuit

Q.10 Direction of rotation of single phase motor can be reversed by _____

a) Reversing connection of both winding

b) Reversing connection of starting winding

c) Using a reversing switch

d) Reversing the supply connection

SECTION-B

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

Q.11 MCB stands for _____

Q.12 A voltmeter should be connected in series in a circuit. (T/F)

Q.13 Transistor has _____ terminals.

Q.14 1 horse power is equal to _____ watt.

Q.15 Wattmeter is used to measure _____.

Q.16 Tell the S.I. unit of voltage.

Q.17 Overloading of electric current in circuits can lead to short circuiting. (T/F)

Q.18 What is the colour of live wire in electric circuit?

Q.19 What is the function of main switch?

Q.20 Draw symbol of Zener diode.

SECTION-C

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

Q.21 What are the advantages of AC voltage over DC voltage?

Q.22 Compare three phase and single phase supply.

Q.23 Why ELCB is used in electrical installation?

Q.24 List the precautions taken against electric shock.

Q.25 Explain types of fuses.

Q.26 Explain the working of Zener diode.