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3rd Sem / Automobile, Mechanical Engg., Mechanical (Tool & Die Design)

Subject:- Basics of Electrical & Electronics Engineering

Time : 3Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The Unit of voltage is _____.

a) Ohm b) Ampere

c) Hertz d) Volts

Q.2 The power factor at resonance in RLC series circuit is ?

a) Zero b) 1

c) 2 d) Infinite

Q.3 The standard frequency of AC supply in India is _____

a) Zero b) 220 Hz

c) 440 Hz d) 50 Hz

Q.4 Earth wires are usually made of _____

a) Aluminium b) Brass

c) Galvanized iron d) ACSR

Q.5 Name the cable which connects the distributor to the consumer terminals.

a) Distributors b) Service mains

c) Feeders d) All of these

Q.6 Barriers potential is expressed in _____ .

a) Ohm b) Ampere

c) Metre d) Volt

SECTION-B

Note: Objective/Completion type questions. All questions are compulsory. (6x1=6)

Q.7 Define time period

Q.8 What is doping?

Q.9 ELCB Stands for_____

Q.10 The voltage between one phase & neutral is _____

Q.11 Power factor is improved by using _____ banks

Q.12 A semiconductor in extremely pure form is called an _____ semi conductor.

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 How the following equipments are connected in the electrical circuit . Draw their circuit diagram .

a) Voltmeter b) Ammeter

c) Wattmeter d) Energy meter

Q.14 What is the difference between A.C. & D.C.?

Q.15 Derive the expression of voltage and current when alternating voltage is applied to a pure resistance.

Q.16 Derive the EMF equation of the transformer.

Q.17 Explain pipe earthing with neat diagram.

Q.18 Differentiate between feeder, distributor and service main.

Q.19 Define line voltage and phase voltage. What is the colour of neutral & earth wire.

Q.20 Write the names of different types of AC motors & any four applications of 3 - ϕ motors.

Q.21 Explain different transistor circuit configurations.

Q.22 What should be the immediate action to save a person from electric shock.

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 Explain the working principle of transformer with the help of suitable diagram. What are the various types of losses in transformer?

Q.24 Why starter is needed for starting of induction motors? Explain star - delta starter for starting of 3-Φ induction motors with neat diagram.

Q.25 Draw the symbol of PN junction diode and explain its working in forward & reverse Bias.