Q.24 What are the differences between three phase and single phase supply?

Q.25 Explain the term peak factor.

Q.26 Describe single phase transformer.

Q.27 What are star and delta connections?

Q.28 What are uses of maintenance free batteries?

Q.29 Explain the difference between low and high voltage transmission.

Q.30 Explain procedure and benefits of earthing?

Q.31 What are the applications of MCBs and ELCBs?

Q.32 What do you mean by phase and phase difference?

Q.33 What is induction motor?

Q.34 What is the primary difference between AC and DC?

Q.35 What is submersible and flame proof motors?

SECTION-D

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

Q.36 Explain Instantaneous, average, R.M.S and maximum value of current and voltage.

Q.37 Explain Concept of three phase system; star and delta connections. Describe the various parts of domestic installations.

Q.38 Explain PNP and NPN junctions and their characteristics. Describe the characteristics of thyristors.

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3rd Sem./Branch : AME
Subject:- Elements of Electrical and Electronics Engineering-I

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Why is there a requirement for indicating instruments in electrical measurements?

a) To measure very high voltages
b) To provide a visual indication of the measured quantity
c) To measure alternating current
d) To measure electrical resistance

Q.2 Which of the following instruments is based on the principle of electromagnetic induction?

a) Moving Coil Type b) Moving Iron Type
c) Dynamometer Type d) Induction Type

Q.3 What is the function of interpoles in a DC generator?

a) To provide additional magnetic flux
b) To counteract the effect of armature reaction
c) To regulate the output voltage
d) To control the speed of the generator

Q.4 Which component of an AC generator is responsible for converting mechanical energy into electrical energy?

a) Stator b) Rotor
c) Armature d) Commutator

Q.5 What is the main function of a rectifier in a transformer circuit?

a) To regulate voltage
b) To convert AC to DC
c) To increase current
d) To decrease resistance

Q.6 What is the term used to describe the uncontrolled increase in temperature and pressure within a battery?

a) Overcharging
b) Thermal Runaway
c) Cold Weather Operation
d) Voltage Rating

Q.7 Which type of filter is commonly used in audio systems to block frequencies below the audible range?

a) High pass filter b) Low pass filter
c) Band pass filter d) Band stop filter

Q.8 For a coil having a magnetic circuit of constant reluctance, if the flux increases, what happens to the current?

a) Increases b) Decreases
c) Remains constant d) Becomes zero

Q.9 The energy stored in the inductor is of_____ nature.

a) Electrostatic
b) Magnetic
c) Neither electrostatic nor magnetic
d) Either electrostatic or magnetic

Q.10 At resonance, the circuit appears_____.

a) Inductive
b) Capacitive
c) Either inductive or capacitive
d) Resistive

SECTION-B

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

Q.11 What is the variation of current in AC w.r.t.

Q.12 What is voltage and EMF?

Q.13 What does transformer do?

Q.14 What do you mean by frequency?

Q.15 What is R.M.S value?

Q.16 What does CVT mean?

Q.17 How high voltage is transmitted?

Q.18 What is the role of MCB?

Q.19 What is the role of Isolation Transformer?

Q.20 What does maintenance free battery mean?

SECTION-C

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

Q.21 How can we improve power factor by the use of capacitors?

Q.22 What is the advantage of electricity over other types of energy?

Q.23 Define voltage, current and power.