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**3rd Sem /Agri, Auto, Chem, P & P, Civil, Mech,  
Plastic,Prod, T & D, CNC, CAD/CAM, Found & Forg,  
Metallurgy, Print Making Tech., Mech (Ad. Manu Tech.),  
Mech Engg (Fabrication Tech), Mech. Engg. ((Prod.)**

## **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 Potential difference between phase and neutral in single phase system is (CO1)  
a) 150 volt                  b) 320 volt  
c) 440 volt                  d) 220 volt

Q.2 What is the unit of Voltage? (CO1)  
a) Volt                  b) Amp.  
c) Ohm                  d) Watt

Q.3 Full form of E.M.F. is: (CO3)  
a) Electromotive force b) Equal motive force  
c) Equal motive field d) Equal motion field

Q.4 Breather is provided in a transformer to (CO3)  
a) Absorb moisture of air during breathing  
b) Provide cold air in the transformer  
c) To filter the transformer oil  
d) None of the above

(1) 180136/170336/120136  
          /030136/030423

- Q.5** Which of the following loss in transformer is zero even at full load. (CO3)  
a) Core Loss      b) Friction Loss  
c) Eddy Current Loss      d) Hysteresis Loss

**Q.6** Identity the colour of phase wire, neutral wire and earth wire in domestic wiring system. (CO4)  
a) Red, Black, Yellow      b) Red, Yellow, Blue  
c) Red, Yellow, White      d) Red, Black, Green

**Q.7** What type of material is used for winding/coil in induction motor (CO5)  
a) Bronze      b) Copper  
c) Silicon Steel      d) Cast Iron

**Q.8** Sub circuits are directly connected with (CO6)  
a) Energy Meter      b) DPIC Switch  
c) Distribution Board      d) All of the above

**Q.9** A fuse is provided in an electric circuit for (CO6)  
a) Safeguarding the insulation against heavy current  
b) Reducing the current flowing in the circuit  
c) Reducing the power consumption  
d) All of the above

**Q.10** The middle section of a PNP transistor is known as (CO7)  
a) Emitter      b) Collector  
c) Base      d) All of the above

(2) 180136/170336/120136  
          /030136/030423

## **SECTION-B**

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

- Q.11 Write a most common source of DC supply. (CO1)  
Q.12 In an electric circuit the voltage is measured by which instrument. (CO1)  
Q.13 The time period of an alternating quantity is the time required to complete one cycle. (True/False) (CO2)  
Q.14 On which side of transformer the load is connected (Primary side or Secondary side). (CO3)  
Q.15 What is the value of line voltage between two phase? (CO4)  
Q.16 Which motor is used in ceiling fan? (CO5)  
Q.17 Write full form of PVC. (CO6)  
Q.18 Is earthing of electrical appliances is very important? (CO6)  
Q.19 The valence electron of a conductor is also called as free electrons (True/False) (CO7)  
Q.20 How many junctions are there in a transistor? (CO7)

## **SECTION-C**

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

- Q.21 What are the advantages of electrical energy over other form of energy? (CO1)  
Q.22 What is resistance? On what factor the resistance of conductor depends? (CO1)  
Q.23 What are the advantages of improved power factor? (CO2)

- Q.24 What are the causes of low power factor? (CO2)  
Q.25 Explain various losses in transformer. (CO3)  
Q.26 List the parts of a transformer and explain any two. (CO3)  
Q.27 What is high voltage distribution system? (CO4)  
Q.28 Explain the working principle of 3 phase induction motor. (CO5)  
Q.29 Write any five differences of single phase and three phase Motors. (CO5)  
Q.30 What are the differences between circuit and sub circuits? (CO4)  
Q.31 What are the common safety measures to avoid the risk of electric shock? (CO6)  
Q.32 What is the purpose of providing fuse on phase wires in an electric circuit? (CO6)  
Q.33 Explain the ELCB in detail. (CO6)  
Q.34 What is intrinsic and extrinsic semiconductor? (CO7)  
Q.35 What is valence band and conduction band? (CO7)

## **SECTION-D**

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

- Q.36 Draw and explain star and delta connection of three phase electrical system. (CO4)  
Q.37 Briefly explain various methods of cooling of transformer. (CO3)  
Q.38 Explain forward and reverse biased VI characteristics of junction diode. (CO7)