

No. of Printed Pages : 4

180136/170336/120136/

Roll No. ....

030136/030423

3rd Sem / Branch : 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 &**

Time : 3Hrs.

**Eltx. Engg.**

M.M. : 100

**SECTION-A**

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

Q.1 The unit of electric power is: (CO1)

- a) Volt
- b) Ampere
- c) Watt
- d) Joule

Q.2 An ammeter is used to measure: (CO1)

- a) Energy
- b) Voltage
- c) Power
- d) Current

Q.3 In 3 phase system, phases are represented by letters :

- a) RGB
- b) RYB (CO4)
- c) RBG
- d) RBN

Q.4 In a pure capacitive circuit, voltage \_\_\_\_\_ current by \_\_\_\_\_ degrees: (CO2)

- a) lead, 90
- b) lag, 90
- c) lead, 180
- d) lag, 180

Q.5 The maximum power in a single phase lighting sub circuit is \_\_\_\_\_ watt: (CO4)

- a) 80
- b) 400
- c) 800
- d) 1400

(1) 180136/170336/120136/

030136/030423

Q.6 The resistance of earth wire should be: (CO6)

- a) Low
- b) Medium
- c) High
- d) Very high

Q.7 A thyristor (SCR) has \_\_\_\_\_ terminals (CO7)

- a) 1
- b) 2
- c) 3
- d) 4

Q.8 A pentavalent impurity has \_\_\_\_\_ valence electrons (CO7)

- a) 2
- b) 3
- c) 4
- d) 4

Q.9 M in MCB stands for: (CO6)

- a) Minimum
- b) Maximum
- c) Miniature
- d) Moisture

Q.10 Two resistances of 2W and 4W are connected in series. Total resistance will be: (CO1)

- a) 4/3W
- b) 2W
- c) 3/4W
- d) 6W

**SECTION-B**

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

Q.11 Define electric power? (CO1)

Q.12 The unit of Voltage is\_\_\_\_\_ (CO1)

Q.13 The instrument used to measure electric energy is called\_\_\_\_\_ (CO1)

Q.14 Give one difference between AC and DC? (CO3)

Q.15 Give one applications of electrical energy? (CO1)

(2) 180136/170336/120136/

030136/030423

- Q.16 State Ohm's law? (CO1)  
 Q.17 Define power factor ? (CO2)  
 Q.18 Define instantaneous value? (CO2)  
 Q.19 In pure inductive circuit, angle between voltage and current is \_\_\_\_\_ (CO2)  
 Q.20 Name one protective device in electrical installation? (CO6)

### **SECTION-C**

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

- Q.21 List any ten advantage of electrical energy ? (CO1)  
 Q.22 List any five electrical parameter of a circuit along with their unit of measurement and measuring devices. (CO1)  
 Q.23 State and explain Flemings Left hand and Right hand rule ? (CO3)  
 Q.24 Define: Electrical energy, Time period, Average Value, Form factor, Peak factor (CO1)  
 Q.25 Draw and explain star and delta connection along with the various Voltage and current relationship ? (CO4)  
 Q.26 List and explain various losses in a transformer? (CO3)  
 Q.27 Differentiate between single and three phase motor? (CO5)

(3) 180136/170336/120136/  
030136/030423

- Q.28 Write a note on auto transformer? (CO3)  
 Q.29 Examine the importance of earth wire and neutral wire in a distribution system? (CO4)  
 Q.30 What is the need of a starter? Explain star-delta starter with suitable diagram? (CO5)  
 Q.31 How direction of rotation of 3 phase induction motor is reversed ? Explain (CO5)  
 Q.32 Differentiate between single and three phase system ? (CO4)  
 Q.33 What is earthing? Why it is essential part of an electrical installation? (CO6)  
 Q.34 Draw and explain V-I characteristics of P-N junction diode? (CO7)  
 Q.35 Explain construction of thyristor (SCR) with neat sketch ? (CO7)

### **SECTION-D**

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

- Q.36 Define transformer? Explain construction and working of single phase transformer with diagram? (CO3)  
 Q.37 List and explain various wiring systems in an electrical installation? (CO4)  
 Q.38 Define electric shock? List possible causes of electric shock and discuss its treatment? (CO6)

(5080) (4) 180136/170336/120136/  
030136/030423