22373

23124

3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **10**

a) Define Ohm's law and write it's equation.

b) Write necessity of starter for 3 phase induction motor.

c) Define magnetic flux of the magnetic circuit and state it's unit.

d) Draw wave form of Alternating Current (AC) and Direct Current (DC).

e) List applications of 3 phase Induction motor. (Any four)

f) Define electrical potential difference and state it's unit.

g) List any two advantages of moving iron instrument.

Marks

2. Attempt any THREE of the following: **12**

a) Define following terms :–

i) Cycle

ii) Frequency

iii) Average value

iv) R.M.S. value.

b) Compare two winding transformer with auto transformer.

c) List different types of fuses and explain operation of MCB.

d) Give classification of drive with there application.

3. Attempt any THREE of the following: **12**

a) Compare Electric circuit and Magnetic circuit. (Any four points)

b) Define transformer. Write it's need. Give application's of transformer.

c) Explain VFD and list it's advantages.

d) Write color coding significance of electrical conductor for 3 phase and single phase AC wiring.

e) Explain Hysterisis loop of magnetic circuit with neat diagram.

4. Attempt any THREE of the following: **12**

a) State and explain Faraday's law of electromagnetic induction.

b) Write application's of the following DC motors.

i) DC shunt motor

ii) DC series motor.

c) List any four safety tools used in electrical workshop with their applications.

d) Draw and explain operation of MCB.

e) State necessity of earthing. Mention the factors affect earthing.

Marks

5. Attempt any TWO of the following: **12**

a) How star to Delta transformation is done for resistive network? State necessary formulae.

b) State the necessity of enclosure for motors. Enlist one application of each type of enclosure used for electric drive.

c) Write applications of the following measuring instruments.
   i) Electro-dynamic watt meter
   ii) Energy meter
   iii) Megger
   iv) Clip on meter
   v) Tachometer
   vi) Digital multimeter.

6. Attempt any TWO of the following: **12**

a) Draw schematic representation of –
   i) DC shunt motor
   ii) DC series motor
   iii) DC compound motor.

b) Compare squirrel cage induction motor with slipring induction motor. (Any six points)

c) Using series parallel combination law. Find the resistance between terminal A and B of the network Figure No. 1.

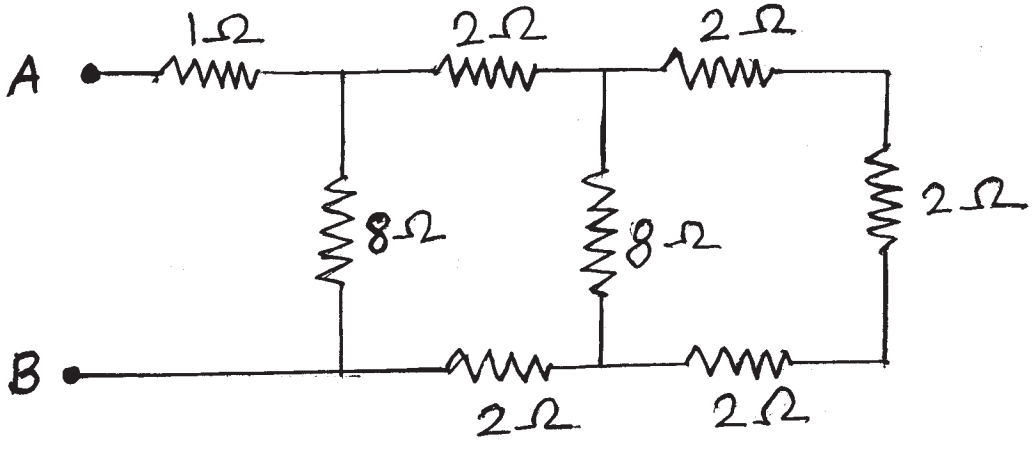

Fig. No. 1