S. B. Roll. No.....

ELEMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING
3rd Exam/Mech./Auto/0193/Jun'2022
(For 2018 Batch Onwards)

Duration: 3Hrs. **M.Marks:75**

SECTION-A

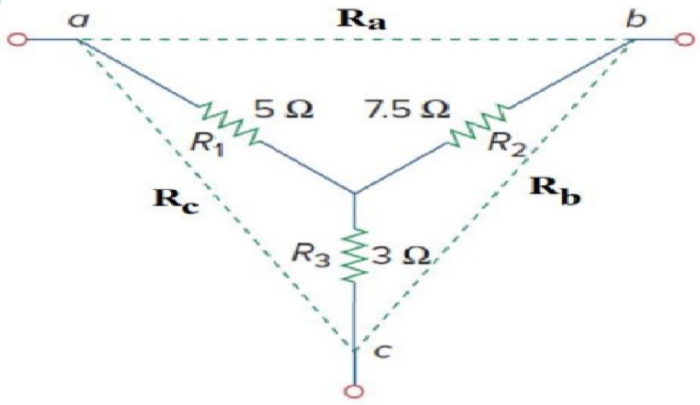
Q1. Fill in the blanks. **15x1=15**

a. KWh is the unit of_____
b. A Zener diode is used as_____
c. The filament of an electric bulb is made of_____
d. An iron takes 4 A at 250 V. Its power rating is_____
e. Power factor is the ratio of real power to_____
f. A motor in which the rotor turns in discrete movements is called a_____
g. The unit of magnetic flux density is_____
h. Arrange in ascending order of size : Emitter, base and collector
i. Transistor is a _____terminal device.
j. MCB stands for_____
k. Form factor is defined as the ratio of_____
l. Ammeter is always connected in _____with load.
m. Average value of a sine wave over a full cycle is_____
n. Star connection is also called as_____
o. P type semiconductor has _____as majority carriers.

SECTION-B

Q2. Attempt any six questions. **6x5=30**

i. Differentiate between single phase and three phase supply.
ii. Write a short note on Form factor and Peak factor.
iii. Explain magnetic flux and flux density.
iv. Explain average value and RMS value of sinusoidal current.
v. What is Power factor? What is its importance?
vi. Differentiate Intrinsic and Extrinsic semiconductor.
vii. Calculate value of Ra, Rb and Rc resistors.



viii. What is the function of a fuse in a domestic wiring circuit?
ix. Write differences between AC and DC.

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SECTION-C

Q3. Attempt any three questions. **3x10=30**

a. What are the precautions to be taken against an electric shock? Write down the procedure/ treatment to be followed if someone has come in contact with electric shock.
b. Explain the working principle of a transformer. Also write down the losses that occur in a transformer.
c. What is a zener diode? Write down its characteristics and applications.
d. Explain construction and working of three phase induction motor.
e. What do you understand by earthing? Explain different types of earthing.
f. Write down a short note on:
   i) Thyristor ii) P type semiconductor.