Note: Please attempt any 10 short questions from Question 2. Also, attempt both parts (a and b) of Question 3. Cutting and removal of any content is strictly prohibited.

Objective-Section

Q. 1 Encircle the correct answer.   (10x1=10)

1. The rate of flow of charges is called:
   (A) Current (B) Voltage (C) Ohm (D) Coulomb
2. An electric current in conductors is due to the flow of:
   (A) Positive ions (B) Negative ions (C) Positive charges (D) Free electrons
3. An ideal voltmeter has a resistance:
   (A) Very Low (B) Very High (C) Low (D) Nothing
4. Mathematical equation of Ohm's law is:
   (A) $V = IR$ (B) $V = I/R$ (C) $I = V/R$ (D) $R = VI$
5. Specific resistance of Nichrome metal is:
   (A) 100 (B) 200 (C) 300 (D) 400
6. Sign of resistance is:
   (A) R (B) Ω (C) V (D) I
7. Electric power of washing machine:
   (A) 50 (B) 750 (C) 100 (D) 800
8. The unit of electric power is:
   (A) Ampere (B) Watt (C) Joule (D) Volt
9. 1 kWh is equal to:
   (A) 3.6 MJ (B) 3.6 kJ (C) 3.6 J (D) 1,000 J
10. Alternating current (AC) frequency in Pakistan is:
    (A) 60 Hz (B) 50 Hz (C) 70 Hz (D) 80 Hz

Subjective-Section

Q.2 Write short answers of any ten of the following questions: (10x2=20)

I.   Define current and also write its SI unit.
II.   What is the difference between galvanometer and ammeter?
III.   Define potential difference.
IV.   Define electromotive force. Also write its formula and unit.
V.   Define resistance and give the name of its unit.
VI.   Define ohmic and non-ohmic materials.
VII.   Define resistivity and write its unit.
VIII. Differentiate between conductors and insulators.
IX.   What is a circuit diagram?
X.   Write the equation of Joule's law.
XI.   Define electric power and write its formula.
XII.   How does the circuit breaker work?

Q.No.3 Long Question: (5+5=10)

a) State and explain Ohm's law. What are its limitations?
b) Write a note on the safe use of electricity in homes.