AAFAQ ACADEMY KASUR

Physics Book II   Chapter (13) NEW   Objective + Subjective

CURRENT ELECTRICITY

Test Session 2014 – Name : _____ Roll No: (in words) _____

OBJECTIVE

Time: 10 Minutes   **Marks: 10**

Note: Write your roll No. in space provided. Over-writing, cutting, erasing, using of lead pencils will result into loss of marks.

Encircle the correct answers.

i. When a pot difference of 4 volt is applied across resistance, 10 J of energy is converted. Find charge flows.
a) 0.2. C
b) 2.5 C
c) 5.0 C
d) 10.0 C

ii. If a charge Q floes through any cross section of the conductor in time t, the current I is:
a) $I = Qt$
b) $I = \dfrac{Q}{t}$
c) $I = \dfrac{t}{Q}$
d) $I = \dfrac{Q^2}{t}$

iii. During electrolysis process, density of $CuSO_4$ solution.
a) Remains constant
b) Decreased
c) Increased
d) None of these

iv. For non-ohmic devices, the graph between V and I is:
a) Not a straight line
b) A straight line
c) A curve
d) All of above

v. If there is no fourth band, tolerance is shoes as:
a) $\pm 10\%$
b) $\pm 20\%$
c) $\pm 5\%$
d) 10%

vi. The resistivity of _____decrease with the increase in temp.
a) Gold
b) Silver
c) Copper
d) Silicon

vii. A rheostat can be used as variable resistor as well as a _____.
a) Potential divider
b) Current divider
c) Wheat stone bridge
d) Power divider

viii. The condition for the wheat stone bridge to be balanced is given by:
a) $\dfrac{R_1}{R_2} = \dfrac{R_3}{R_4}$
b) $\dfrac{R_2}{R_1} = \dfrac{R_3}{R_4}$
c) $\dfrac{R_1}{R_2} = \dfrac{R_4}{R_3}$
d) None of above

ix. The product of resistance and conductance is:
a) 1
b) Resistivity
c) Conductance
d) Zero

x. Unit (S.I) of temperature coefficient of resistivity of a material is:
a) K
b) K^{-1}
c) ^0C
d) K^{-2}

SUBJECTIVE

Time: 30 min.   **Marks: 20**

Q.2 Write the answer of SIX questions.

i. A potential difference is applied across the ends of a copper wire. What is the effect on the drift velocity of free electron by?
(a) Increasing the potential difference.
(b) Decreasing the length and the temperature of the wire.

ii. Do bends in a wire affect its electrical resistance? Explain.

iii. Why does the resistance of a conductor rise with temperature?

iv. What are the difficulties in testing whether the filament of a lighted bulb obeys Ohm's law?

v. Describe a circuit, which will give a continuously varying potential?

vi. What is Wheatstone bridge? How can it be used to determine an unknown resistance?

vii. Write a note on rheostat as a variables resistor.

viii. State Kirchhoff's 2nd rule.

Long questions:

Q.3 (a) What is potentiometer? Give its construction and describe its uses in detail. (5)

(b) A rectangular bar of iron is 2.0 cm by 2.0 cm in cross-section and 40 cm long. Calculate its resistance if the resistivity of iron is 11×10^{-8} Ω.m. (3)