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Roll No. .....

1st / ECE/ Instrumentation & Control engg./ Automation & Robotics/ Medical electronics / ECE (For Speech and Hearing Impaired)

Subject : Fundamental of Electrical Engineering / Fundamentals of Electrical Engg.

Time : 3 Hrs. M.M. : 60

SECTION-A

Note: Multiple choice questions. All questions are compulsory (6x1=6)

Q.1 The resistance of a conductor increases as its
a) Resistivity decreases
b) cross sectional area increases
c) Length increases
d) Length reduced and cross sectional area increases

Q.2 Farad is the unit of
a) Inductors b) Capacitors
c) Resistance d) Electric Potential

Q.3 An ideal current source has
a) High internal resistance
b) Zero internal resistance
c) Low internal resistance
d) Infinite internal resistance

Q.4 The frequency of dc supply is
a) 50 Hz b) Zero
c) 60 Hz d) 100 Hz

Q.5 In a primary cell chemical reactions taking place are
a) reversible b) Irreversible
c) both d) None of the above

Q.6 Charge on an electron is
a) -1.6×10^{-19} F b) -1.6×10^{-19} N
c) -1.6×10^{-19} C d) Zero

SECTION-B

Note: Objective/ Completion type questions. All questions are compulsory. (6x1=6)

Q.7 The wave-shapes of_____ is sinusoidal.

Q.8 Average power dissipated in a pure inductor is_____

Q.9 Electric charge is a _____ Quantity.

Q.10 Inductance of a coil depends upon_____ of turns of coil.

Q.11 Chemical energy is converted into electrical energy in a secondary cell during_____

Q.12 Most common source of D.C. are _____ and_____

SECTION-C

Note: Short answer type questions. Attempt any eight questions out of ten questions. (8x4=32)

Q.13 State kirchoff's current law and kirchoff's voltage law.

Q.14 What is the difference between conventional current and electron current?

Q.15 Define a constant current source. Draw it's characteristics.

Q.16 Why Ohm's law is not applicable for insulators?

Q.17 Define Peak factor. What is it's value for a sine wave?

Q.18 What are the causes of low power factor?

Q.19 What is magnetic field? What are its units?

Q.20 Define eddy current.

Q.21 What are necessary instructions for care and maintenance of lead acid battery?

Q.22 What is secondary cell?

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x8=16)

Q.23 State, explain and illustrate with an example Thevenin's theorem.

Q.24 What is power factor in a.c. circuits? State disadvantage of low of power factor.

Q.25 State and explain, Faraday's law of electro-magnetic induction.