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1st / Electrical

Subject : Principles of Electrical Engineering

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 Unit of current is

a) Ampere b) Hertz
c) Coulomb d) Watt

Q.2 Unit of Capacitance is

a) second b) Farad
c) Ohm d) Henry

Q.3 An ideal current source has internal resistance

a) zero b) 10
c) Infinite d) 100

Q.4 Unit of Electrical Energy is

a) KW b) Hr.
c) Ampere d) Kw.Hr

Q.5 Symbol of Magnetic Flux Density

a) H b) B
c) I d) C

Q.6 In Lead Acid cell, the negative plate is made of

a) Lead oxide b) Silver
c) Lead d) Zinc

SECTION-B

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

Q.7 Unit of current is_____.

Q.8 If two Resistors of 2W and 2W are connected in parallel, their total equivalent resistance is = _____W

Q.9 Unit of Magnetic Flux is_____.

Q.10 In KCL, the algebraic sum of currents meeting at a point= _____

Q.11 Energy Stored in a Inductor = _____

Q.12 With increases in frequency the Hysteresis loss increases. (True/False).

SECTION-C

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

Q.13 Define and explain Kirchoff's voltage law.

Q.14 Explain capacitors connected in series and parallel.

Q.15 State and explain Faraday's laws of Electromagnetic Induction.

Q.16 Explain the factors affecting Capacitance of a capacitor.

Q.17 Explain Hysteresis loss with hysteresis loop for hard and soft magnetic material.

Q.18 Explain the concept of Mutual Inductance.

Q.19 Explain dynamically and statically induced e.m.f.

Q.20 Explain Disposal of batteries.

Q.21 Explain capacity and efficiency of batteries.

Q.22 State and explain Ohm's law.

SECTION-D

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

Q.23 Compare Magnetic circuit and Electric circuit with similarities and Dissimilarities.

Q.24 Explain construction, working, principle and applications of lithium ion batteries.

Q.25 Explain star to Delta and Delta to star conversion of Resistor.