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220914

1st Sem / 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 Resistance is : (CO1)

a) Ohm b) Watt

c) Ampere d) Joule

Q.2 Farad is a unit of (CO1)

a) Electric intensity b) Electric potential

c) Capacitance d) None of them

Q.3 Which of the following quantities are the same in all parts of a series circuit. (CO2)

a) Voltage b) Power

c) Current d) Resistance

Q.4 The emf induced in a coil depends on (CO3)

a) number of turns

b) change of flux linked with it

c) the time taken to change the flux

d) All of above

Q.5 _____ in magnetic circuit is equivalent to resistance in electric Circuit. (CO3)

a) Flux b) Reluctance

c) mmf d) Magnetic Field

Q.6 In a primary cell chemical reactions taking place are (CO5)

a) Reversible b) Irreversible

c) Both d) None of above

SECTION-B

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

Q.7 Define Electric current. (CO1)

Q.8 An ideal voltage source has zero internal resistance. (True/False) (CO2)

Q.9 Expand EMF. (CO1)

Q.10 In lead Acid cell the electrolyte is_____ (CO5)

Q.11 Unit of flux is ampere turns. (True/False) (CO3)

Q.12 When a current carrying conductor is places in a magnetic field, It experiences a _____ (CO3)

SECTION-C

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

Q.13 State & Explain ohm's Law. (CO2)

Q.14 Define Resistance. Find equivalent resistance for two resistances connected in series. (CO1)

Q.15 Three Resistances of 5W, 10W and 15W are connected in star. Obtain its equivalent resistance in delta. (CO2)

Q.16 Write the instructions to be followed for care and maintenance of Lead Acid batteries. (CO5)

Q.17 State and explain Faraday's law of electromagnetic induction. (CO4)

Q.18 Define magnetic flux and magnetic flux density . (CO3)

Q.19 Write short note on Lead Acid Battery. (CO5)

Q.20 Explain the concept of Mutual Inductance. (CO4)

Q.21 Derive an expression for the Force between two parallel current carrying conductors. (CO3)

Q.22 State Fleming's Right Hand rule and Fleming's Left Hand rule. (CO4)

SECTION-D

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

Q.23 List down similarities and dissimilarities of a magnetic circuit and an electric circuit.

Q.24 What is a practical voltage source. Draw its characteristics, how does it differ from a constant voltage source. (CO2)

Q.25 Write a short note on any two.

a) Eddy Current Loss (CO5)

b) Maintenance Free Batteries. (CO1)

c) Factors affecting the capacitance of a capacitor. (Co1)