

SECTION-D

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

Q.23 Explain construction, working principle and applications of Lead Acid Battery. (CO5)

Q.24 Derive a relation to convert a star connected circuit into equivalent delta connected circuit. (CO2)

Q.25 Write a short note on any two.

- a) Hysteresis Loss (CO4)
- b) Coulomb's Law (Co3)
- c) Energy stored in capacitor (CO1)

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Roll No.

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 Electrical power is measured in: (CO1)

- a) Weber b) Watt
- c) kWh d) Joule

Q.2 The resistance of wire varies inversely as (CO1)

- a) Area of cross section
- b) Length
- c) Resistivity
- d) Temperature

Q.3 An Ideal voltage source has (CO2)

- a) zero internal resistance
- b) High internal resistance
- c) infinite internal resistance
- d) very low internal resistance

Q.4 Unit of M.M.F. is (CO3)

- a) Weber b) Tesla
c) Ampere turns d) Joule

Q.5 A battery is used to convert _____ energy in electricity. (CO5)

- a) Mechanical b) Chemical
c) Thermal d) None of the above

Q.6 _____ is magnetic circuit is equivalent to current in electric circuit. (CO3)

- a) Flux b) Reluctance
c) mmf d) Magnetic Field

SECTION-B

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

Q.7 Define resistance. (CO1)

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

Q.9 Expand MMF (CO3)

Q.10 Define primary cell. (CO5)

Q.11 Unit of flux is _____ (CO3)

Q.12 As per Lenz's law emf induced in a coil _____ the cause producing it. (Co4)

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SECTION-C

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

Q.13 State & Explain KVL and KCL. (CO2)

Q.14 State the factors affecting Resistance of a conductor. (CO1)

Q.15 Define series circuit and parallel circuit. (CO2)

Q.16 List various similarities between electric and magnetic circuit. (CO3)

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

Q.18 Define Eddy current and Eddy current losses. (CO4)

Q.19 Distinguish between a primary and a secondary cell. (CO5)

Q.20 State and Explain Faraday's law of electrolysis. (CO5)

Q.21 Derive an expression for the Force acting on current carrying Placed in magnetic field. (CO3)

Q.22 Three resistors 4Ω , 12Ω and 6Ω are connected in parallel. If the total Current taken is 12A, find the current through each resistor. (CO2)

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