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

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

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 The unit of Resistance is_____

a) Ohm b) Ohm-meter

c) Volt d) Ampere

Q.2 1 kWh =_____

a) 3.6×10^6 J b) 3.6×10^5 J

c) 0.36×10^6 J d) 0.36×10^5 J

Q.3 Ammeter is used to measure_____

a) Current b) Voltage

c) Power d) Resistance

Q.4 In ideal current source, the internal resistance is _____

a) Zero b) One

c) Infinite d) None of the above

Q.5 MMF stands for_____

a) Magnetic motion force

b) Magnetomotive force

c) Magneto material force

d) None of the above

Q.6 Which electrolyte is used in lead acid battery?

a) H_2SO_4 b) Ag_2O

c) MnO_2 d) None of the above

SECTION-B

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

Q.7 The frequency of AC power supply in India is_____

Q.8 The resistance of wires is inversely proportional to its length (True/False)

Q.9 Draw the symbol of battery.

Q.10 In maximum power transfer theorem, the load resistance is equal to the source resistance (True/False)

Q.11 Write the unit of flux.

Q.12 Define secondary cell.

SECTION-C

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

Q.13 List the factors affecting resistance of a conductor.

Q.14 Derive an expression of equivalent capacitance when capacitors connected in parallel.

Q.15 Describe ohm's law.

Q.16 Write a short note on Kirchhoff's current law.

Q.17 Define form factor and peak factor.

Q.18 Define constant voltage source and current source. Draw their characteristics.

Q.19 Differentiate between AC and DC.

Q.20 Explain Faraday's law of electromagnatic induction.

Q.21 Calculate power in pure resistance circuit.

Q.22 Explain analogy between electric and magnetic circuit.

SECTION-D

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

Q.23 Derive an expression of star to delta conversion.

Q.24 Describe construction and working principle of Lead acid battery.

Q.25 Write a short note on :

a) Solar cell.

b) Thevenin's theorem