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1st Sem. / ECE/ Instrumentation & Control Engg./ Automation & Robotics / Medical Electronics

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 SI unit of electrical energy is_____

a) kilojoule (KJ) b) joules (J)

c) watt (W) d) kilowatt (KW)

Q.2 Voltmeter is used to measure_____

a) Current b) Voltage

c) Power d) Resistance

Q.3 RMS Stands for_____

a) Root minimum square

b) Root maximum square

c) Root mean square

d) None of the above

Q.4 In Ideal voltage source, the internal resistance is_____

a) Zero b) One

c) Infinite d) None of the above

Q.5 The positive plate of lead acid battery is_____

a) PbO b) Pb

c) PbO_2 d) None of the above

Q.6 Power factor for pure resistive load is

a) Unity b) Lagging

c) Leading d) None of the above

SECTION-B

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

Q.7 Tell the unit of power

Q.8 In a series resonant circuit, the impedance of the circuit is minimum (True/False)

Q.9 Draw the symbol of inductor

Q.10 The resistance of wires is inversely proportional to its length (True/False)

Q.11 Define primary cell

Q.12 The resistance of semiconductor _____ with increase in temperature. (Increase /Decrease)

SECTION-C

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

Q.13 Explain laws of resistance

Q.14 Define conductivity and resistivity.

Q.15 Describe ohm's law

Q.16 Write a short note on Kirchoff's voltage law.

Q.17 Define form factor and peak factor.

Q.18 Explain solar cell in detail.

Q.19 List the steps for maintenance of free batteries.

Q.20 Differentiate between AC and DC.

Q.21 Define power factor. Write its significance.

Q.22 Derive an expression for energy stored in an inductor.

SECTION-D

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

Q.23 Explain Faraday's law of electromagnetic induction in detail.

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

Q.25 Write a short note on :

a) Thevenin's theorem

b) Superposition theo