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2nd Sem. / Instrumentation and Control Engg.

Subject : Fundamentals of Electrical Engg.

Time : 3 Hrs. M.M. : 60

SECTION-A

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

Q.1 Unit of Voltage is_____.

a) Amperes b) Volts

c) Watt d) None of these

Q.2 An instrument that measures the current is known as _____.

a) Ohm water b) Voltmeter

c) Ammeter d) Wattmeter.

Q.3 Unit of Resistivity is_____.

a) Ω b) Ωm

c) Amperes d) Volts

SECTION-D

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

Q.23 Describe capacitors and their types, also discuss their series and parallel connection.

Q.24 Draw and explain Delta connection for three phase supply, also discuss Delta to Star conversion.

Q.25 State and explain the Laws of electro-magnetic induction .

Q.4 An Ideal Voltage source has_____.

a) Zero internal Resistance

b) Infinite internal Resistance

c) High internal Resistance

d) very low internal Resistance

Q.5 SI unit of magnetic flux density is_____.

a) Tesla b) Weber

c) Ampere d) None of these

Q.6 A tuned circuit uses _____

a) R-L

b) R-C

c) L-C at its components

d) XL-C

SECTION-B

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

Q.7 Define secondary cell.

Q.8 Mention one application of Lead acid battery.

Q.9 The parallel resonance magnifies the current in the circuits. (True/False)

Q.10 Define DC.

Q.11 The term power factor comes into the picture in Ac circuits only. (True/False)

Q.12 Explain KVL.

SECTION-C

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

Q.13 Write a short note on Lithium -ion battery.

Q.14 What is Magnetic circuit.

Q.15 Draw and explain R-C series circuit with its phasor diagram.

Q.16 State and Explain Norton Theorem.

Q.17 Write the factors affecting Resistance of a Resistor.

Q.18 State laws of Resistance.

Q.19 Explain Kirchoff's current law.

Q.20 Write a short note on admittance and impedance.

Q.21 Write a short note on Solar panels.

Q.22 Discuss Self and Mutual inductance.