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

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 Resistance is   (CO1)

a)   Ampere   b)   Ohm

c)   Joule   d)   Watt

Q.2   Ammeter is used for measuring   (CO1)

a)   Current   b)   Voltage

c)   Resistance   d)   Power

Q.3   An ideal current source has   (CO2)

a)   Zero   b)   One

c)   Infinity   d)   Six

Q.4   Unit of Capacitance is   (CO1)

a)   Ohm   b)   Watt

c)   Farad   d)   Coulomb

Q.5   Unit of Time Period is   (CO3)

a)   Ohm   b)   Sec

c)   Hertz   d)   Watt

Q.6   In Lead acid cell Negative plate is made of (CO5)

a)   Lead

b)   Lead oxide

c)   Iron

d)   Lead Sulphate

SECTION-B

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

Q.7   Unit of Inductance is_____   (CO1)

Q.8   Unit of Power is_____   (CO1)

Q.9   Unit of frequency is_____   (CO3)

Q.10 Unit of Impedance is_____   (CO3)

Q.11 Minimum value of Power factor is_____ (CO3)

Q.12 Unit of flux is_____   (CO4)

SECTION-C

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

Q.13 Two Capacitors of 3 farad and 6 farad are first connected in series and then in parallel. Find the total equivalent capacitance in each case. (CO1)

Q.14 Explain the factors on which resistance of a conductor depends (CO1)

Q.15 Define Faraday's Laws of Electro Magnetic induction. (CO4)

Q.16 Define and explain Ohm's Law (CO2)

Q.17 Define Super position Theorem (CO2)

Q.18 Explain Series and Parallel connection of Resistance. (CO1)

Q.19 Define and explain Average value of AC (CO3)

Q.20 Explain series resonance in R-L-C Series Circuit. (CO3)

Q.21 Derive the expression for power Consumed in pure Inductor (CO4)

Q.22 Explain the reactions that take place at Anode and Cathode during Discharging in Lead acid cell. (CO5)

SECTION-D

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

Q.23 Define and explain Maximum Power Transfer Theorem and Thevenin Theorem (CO2)

Q.24 Explain construction, working principle and applications of Lead Acid Battery (CO5)

Q.25 Explain Voltage and Current Source, Symbol and Graphical representation and characteristics of ideal and practical sources. (CO2)