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3rd Sem / Branch : Electrical, GE, Power Station Engg., Elect. & Eltx. Engg.

Subject:- Fundamentals of Electrical Engineering

Time : 3Hrs. M.M. : 100

SECTION-A

Note: Multiple choice questions. All questions are compulsory (10x1=10)

Q.1 The unit of frequency is_____ CO-6
a) ampere b) Hertz
c) volt d) All of three

Q.2 In a pure inductive circuit _____ CO-7
a) current is in phase with the voltage
b) current lags behind the voltage by 90^{o}
c) current leads the voltage by 90^{o}
d) None

Q.3 ohm is unit of all of the following except_____
a) Inductive reactance CO-1
b) Capacitive reactance
c) Resistance
d) Capacitance

Q.4 Unit of power is_____ C0-1
a) Watt b) Ampere
c) Volt d) All of three

Q.5 Form factor for a sine wave is_____ CO-6
a) 1.414 b) 0.707
c) 1.11 d) 0.637

Q.6 The induced e.m.f. of a moving conductor coil can be measured using the following law CO-5
a) Lenz's law b) Faraday's law
c) Coulomb's law d) Ampere's law

Q.7 During the charging of a lead acid cell _____
a) It's voltage increases b) It current increases
c) Both a & b d) None CO-3

Q.8 The maximum value of power factor is _____
a) 0 b) 1 CO-7
c) 2 d) None of these

Q.9 The magnetic field penetrate empty space ? CO-4
a) True b) False
c) Both d) None of these

Q.10 The number of negative plates in a lead acid battery are_____ CO-3
a) One less than positive plate
b) One more than positive plate
c) Both a & b
d) None of these

SECTION-B

Note: Objective type questions. All questions are compulsory. (10x1=10)

Q.11 What is electricity ? CO-1

Q.12 Define electric current C0-1

Q.13 Which convert chemical energy into electrical energy_____ ? CO-3

Q.14 The electrolyte used in Lead acid cell is_____ CO-3

Q.15 What is the mean of electromagnetism ? CO-4

Q.16 Define instantaneous value of an alternating quantity. CO-5

Q.17 MMF is analogous to _____ CO-4

Q.18 Unit of magnetic flux density is _____ CO-4

Q.19 Define the term Average value. CO-6

Q.20 In delta connection Line voltage =_____ Phase voltage. CO-8

SECTION-C

Note: Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

Q.21 Give the difference between AC & DC CO-6

Q.22 State & explain kirchoff's Voltage Law. CO-2

Q.23 Explain star to delta transformation CO-8

Q.24 Describe the working of Lead Acid Cell CO-3

Q.25 Write about the care & maintenance of Lead Acid Battery CO-3

Q.26 Why electrical energy is preferred over others form of energy ? CO-1

Q.27 Define the term CO-4

1. MMF 2. Magnetic Flux

Q.28 Explain mean of hysteresis loop & residual magnetism. CO-1

Q.29 What are eddy currents & explain eddy current loss. CO-4

Q.30 Describe the term self induced emf & mutually induced emf CO-5

Q.31 Analyze the concept of sinusoidal emf generation CO-6

Q.32 State & explain RMS value & Frequency of an alternating quantity. CO-6

Q.33 Write short note on phase & phase difference of an alternating quantities CO-6

Q.34 What is power factor ? Explain its practical significance. CO-7

Q.35 Describe the advantages of 3-phase over 1-phase system. CO-8

SECTION-D

Note: Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

Q.36 Write short note on CO-2

1. Thevenin theorem 2. Ohm's Law

Q.37 State & explain Faraday's Law of electromagnetic induction CO-5

Q.38 Describe

1. Relation between phase voltage & line voltage in star connection
2. AC through pure inductance CO-8