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3rd Sem / Automobile, Mech Engg., Mechanical (Tool & Die Design)

Sub.: Basics of Electrical and Electronics Engineering

Time : 3Hrs. M.M. : 60

SECTION-A

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

Q.1 The Frequency of DC is _____.

a) Zero b) 220 HZ

c) 440 HZ d) Infinitive

Q.2 The resistance of capacitive circuit is

a) Directly proportional to frequency

b) Inversely proportional to frequency

c) Independent of frequency

d) None of the above

Q.3 Unit of Impendence is ?

a) Ohm b) Tesla

c) Hertz d) Weber

Q.4 The power factor at resonance in RLC circuit is ?

a) Zero b) 1

c) 2 d) Infinite

Q.5 Ideal voltage source has _____ resistance.

a) Zero b) 10 ohm

c) 1000 ohm d) Infinite

Q.6 A JFET is also called_____ transistor.

a) Unipolar b) Bipolar

c) Unijunction d) None of the above

SECTION-B

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

Q.7 Define Power factor?

Q.8 What is doping?

Q.9 What is full form of M.M.F.?

Q.10 Define Peak Factor?

Q.11 Define Average value of an AC?

Q.12 Define Transistor or Bipolar junction Transistor?

SECTION-C

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

Q.13 Two Resistance 3 ohm and 6 ohm are used to form a circuit. Find the effective resistance if both resistance are connected in

a) Series b) Parallel

Q.14 Explain Kirchhoff's current law?

Q.15 State and explain Thevenin's theorem with an example.

Q.16 Explain ideal current source. Draw its V-I characteristics.

Q.17 Distinguish between conductor, Insulator, and semi conductor on the basis of energy band diagram.

Q.18 Write the difference between extrinsic and intrinsic semiconductor?

Q.19 Explain half wave rectifier?

Q.20 Draw and explain V-I characteristics of P-N Junction diode?

Q.21 State Faraday's law of electromagnetic induction?

Q.22 Discuss in brief working of NPN transistor.

SECTION-D

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

Q.23 Explain the working of Transformer with the help of suitable diagram. What are the various types of losses in Transformer?

Q.24 Explain in details series LCR circuit? Also state the condition under varying frequency where the impedance of the circuit can be minimized.

Q.25 Explain the principle, construction and working of lead acid battery?