No. of Printed Pages : 4

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220914

Sem. 1 NEP
Electrical Engg.
Sub : Principles of Electrical Engg.

Time : 3 Hrs. **M.M. : 60**

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

Q.1 Electrical power is measured in : (CO-1)

a) Weber b) Watt

c) kWh d) Joule

Q.2 The correct representation of ohm's law is : (CO-2)

a) V=I/R b) I = R/V

c) V = IR d) I = VR

Q.3 _____ in magnetic circuit is equivalent to resistance in electric circuit: (CO-3)

a) Flux b) Reluctance

c) mmf d) Magnetic Field

Q.4 When a metal is heated, its resistance: (CO-2)

a) Increases b) Decreases

c) Remains constant d) None of the above

Q.5 A large B-H curve indicates _____ hysteresis loss: (CO-4)

a) Higher b) Lower

c) Zero d) No relation

Q.6 Electrolyte used in lead acid battery is : (CO-5)

a) H_2SO_4 b) NaOH

c) NaCL d) $CaSO_4$

Section-B

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

Q.7 Define electric current? (CO-1)

Q.8 Expand mmf? (CO-3)

Q.9 Define primary cell? (CO-5)

Q.10 State Lenz's law? (CO-2)

Q.11 Internal resistance of ideal voltage source is zero. (True/False) (CO-1)

Q.12 Define electrolysis? (CO-2)

Section-C

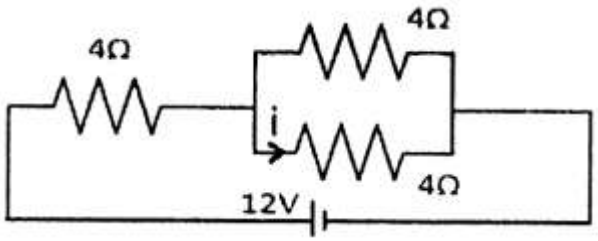
Note: Short answer type Question. Attempt any eight questions out of ten Questions. (8x4=32)

Q.13 What is Joule's law of electric heating? Explain? (CO-2)

Q.14 Define resistance? List factors on which resistance of a material depends? (CO-1)

Q.15 State and explain KCL and KVL with suitable diagram? (CO-2)

Q.16 Solve for i: (CO-2)



Q.17 Analyze analogous properties of an electric and magnetic circuit? (CO-3)

Q.18 Define: Reluctance and magnetic flux density. (CO-3)

Q.19 Explain Faraday's laws of electromagnetic induction. (CO-4)

Q.20 Write a note on eddy current and eddy current losses? (CO-4)

Q.21 How do we take care of lead acid batteries? (CO-5)

Q.22 State and explain Faradays law of electrolysis with suitable diagram? (CO-2)

Section-D

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

Q.23 Discuss important parts of lead acid battery with suitable diagram? Give function of each part? (CO-5)

Q.24 Define hysteresis (B-H) cuve? Discuss its significance alongwith various terms associated with it? (CO-3)

Q.25 Explain star to delta conversion of a resistor network? Solve for R1, R2 and R3: (CO-1)