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5th Sem / Electrical Engg.
Subject:- Utilization of Electrical Energy

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 _____ is used for heating non-conducting materials (CO2)

a) Eddy current heating b) Arc heating
c) Induction heating d) Dielectric heating

Q.2 The current flow through electrolyte is due to the movement of (CO4)

a) Ions b) Holes
c) None of the above d) Electrons

Q.3 Electroplating is done (CO4)

a) To protect the metals against corrosion
b) To give shiny appearance to articles
c) To repair the worn out materials
d) All of these

Q.4 The metal which can be extracted from its ore by the method of electrolysis is /are (CO4)

a) Zinc b) Aluminium
c) Copper d) All of these

Q.5 The voltage- current characteristics of the arc

welding must be (CO3)

a) Exponentially rising b) Drooping
c) Straight line d) Parabolic

Q.6 The electrodes used for projection welding are (CO3)

a) Flat and smaller in diameter
b) Flat and larger in diameter
c) Round and smaller in diameter
d) Round and larger in diameter

Q.7 Seam welding is not used for the (CO3)

a) Welding in tanks
b) Welding in transformer
c) Welding in air crafts
d) Welding alloys of copper

Q.8 The lighting system of almost all the earlier coaches and all the newly manufactured coaches has (CO7)

a) 50 V b) 110 V
c) 220 V d) 420 V

Q.9 The area under the speed-time curve represents the (CO7)

a) Acceleration of the train
b) Time taken by the train
c) Distance travelled by the train
d) Crest speed

Q.10 Which among the following is mechanical braking ? (CO6)

a) Pneumatic braking b) Plugging
c) Dynamic braking d) Regenerative braking

SECTION-B

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

Q.11 The ratio of distance covered between two stops and the total time of running including time of stop is known as_____ Speed . (CO7)

Q.12 DC motor used for the Lathe is_____ (CO6)

Q.13 Insulating paper is heated by_____ heating.(CO2)

Q.14 EMU stands for_____ (CO7)

Q.15 In a centrifugal pump, the mechanical load is _____ (CO6)

Q.16 Speed of the DC Series motor at no load is finite (T/F) (CO6)

Q.17 The negatively charged ions are known as _____ (CO4)

Q.18 MIG stands for_____ . (CO3)

Q.19 One ton of refrigeration is=_____ Kcl/hour (CO5)

Q.20 During resistance welding, heat produced at the joint is proportional to_____ (CO3)

SECTION-C

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

Q.21 Explain the principle and application of Dielectric heating. (CO2)

Q.22 Explain eco friendly refrigerant. (CO5)

Q.23 Enlist Five merits and demerits of Electric traction system. (CO7)

Q.24 Explain factors affecting schedule speed of train. (CO7)

Q.25 Explain the laws of electrolysis. (CO4)

Q.26 Describe about the process of galvanization. (CO4)

Q.27 Explain MIG welding. Enlist it's any five applications. (CO3)

Q.28 Draw the block diagram of EMU. (CO7)

Q.29 Give any three application of microwave heating. (CO3)

Q.30 Explain the need of starting equipment that is required to start a motor. (CO6)

Q.31 Explain the function of flywheel in drives system. (CO6)

Q.32 Explain the factors affecting the electro depositions. (CO4)

Q.33 Enlist the five advantages of electric braking. (CO6)

Q.34 Define belt drives. Also tells its merits over other types of drives. (CO6)

Q.35 Explain rheostatic breaking. (CO6)

SECTION-D

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

Q.36 Explain construction and working of furnace used in melting and refining of nonferrous metals. (CO2)

Q.37 Explain the speed time characteristics for different services used in traction system of India. (CO7)

Q.38 Explain different type mechanical load. Draw there characteristics. (CO6)

(**Note:** Course outcome/CO is for office use only)