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Roll No. 030931/117531

**3rd Sem / Branch : Electrical Power Station Engg.
Fire Tech & Safety Elect. & Eltx. Engg.
Sub.: Electrical & Electronics Engg. Materials**

Time : 3Hrs. M.M. : 100

SECTION-A

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

- Q.1 Solder is an alloy of (CO5)
a) Copper and lead b) Nickle, copper, zinc
c) Tin & Lead d) Silver, Cooper & lead
- Q.2 Conduction band in insulating materials is (CO3)
a) Filled b) Empty
c) Partly filled d) None of above
- Q.3 The property of materials by which they can be drawn into wires is known as. (CO2)
a) Ductility b) Creep
c) Malleability d) Elasticity
- Q.4 Which is most used semi-conducting material. (CO1)
a) Gold b) Copper
c) Silver d) Silicon
- Q.5 Brushes of DC machines are made up of (CO7)
a) Cast Iron b) Silicon Steel
c) Carbon d) Copper
- Q.6 Class E insulation has a working temperature of _____ (CO3)

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- a) 90 b) 120
c) 130 d) 180
- Q.7 Which of the following material is used for making the permanent magnet. (CO6)
a) Cobalt Steel b) Mu-Metal
c) Silicon Iron d) Nickel Iron
- Q.8 By laminating the rotor core of an induction motor, which of the following losses are reduced (CO7)
a) Hysteresis losses b) Eddy current losses
c) Friction losses d) All of the above
- Q.9 Most commonly used overhead transmission line conductor are. (CO2)
a) Copper b) Steel
c) Galvanized Iron d) ACSR
- Q.10 The common household glass is (CO3)
a) Boro silicate glass b) High Leaded glass
c) Soda lime glass d) High silica glass

SECTION-B

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

- Q.11 Thermocouple is used for measuring _____. (CO5)
- Q.12 Air is an example of insulating material. (True/False) (CO3)
- Q.13 Define Doping. (CO1)
- Q.14 PVC stands for _____. (CO3)
- Q.15 Super conductors have _____ resistance. (CO4)
- Q.16 Name any two gaseous insulating materials. (CO8)

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- Q.17 Commutator of a D.C. Machine is made up of _____. (CO7)
- Q.18 Write any two properties of asbestos. (CO4)
- Q.19 Brass is an alloy of copper and _____. (CO2)
- Q.20 The magnetic material loses its magnetic properties at _____. (CO6)

SECTION-C

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

- Q.21 Make a list of materials used for making the part of transformer. (CO7)
- Q.22 Write the properties of high resistivity conducting material. (CO2)
- Q.23 Define hysteresis losses and discuss the factors on which hysteresis loss depends. (CO6)
- Q.24 What is fuse? Discuss the important properties of a fuse wire. (CO5)
- Q.25 Explain why and where Mica and Bakelite are used? (CO3)
- Q.26 Explain the process soldering and properties of materials used as solder. (CO5)
- Q.27 Define semiconductor. Explain the merit and demerits of a semiconductor. (CO1)
- Q.28 Differentiate between soft and hard magnetic materials. (CO6)
- Q.29 Define Dielectric Strength and dielectric loss. Mention their SI units. (CO3)

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- Q.30 Write the properties and applications of copper. (CO2)
- Q.31 Explain the thermal classification of insulating material. (CO3)
- Q.32 Write a short note on Bi-metals and its applications. (CO5)
- Q.33 Mention the electrical and chemical properties of insulating material. (CO4)
- Q.34 Discuss thermocouple with their materials. Mention its important applications. (CO5)
- Q.35 Define super conductivity and Mention its applications. (CO4)

SECTION-D

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

- Q.36 Explain the difference between conducting semiconducting and insulating material on the basis of their energy bands. (CO1)
- Q.37 Classify magnetic materials depending upon the magnetic characteristics of the materials with their examples. (CO6)
- Q.38 Explain the thermoplastic resin and thermosetting plastic resin along with example, their properties and uses. (CO3)

Note : Course Outcome (CO) mentioned in the question paper is for official purpose only.

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