

No. of Printed Pages : 4  
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**3rd Sem / Electrical**

**Subject : Electrical Engineering Materials**

Time : 3 Hrs.

M.M. : 60

**SECTION-A**

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

- Q.1 The materials which allow the flow of current through them are called  
a) Semi-conductors      b) Super conductors  
c) conductors              d) Non conductors
- Q.2 The property of material by which they can be drawn into wires is known as  
a) malleability              b) elasticity  
c) plasticity                d) ductility
- Q.3 Solder is an alloy of  
a) lead and tin              b) aluminum and copper  
c) copper, tin and zinc      d) copper and lead

(1)

220934

- Q.4 Iron is a \_\_\_\_\_ material.  
a) ferro magnetic          b) ferrimagnetic  
c) paramagnetic            d) antiferromagnetic
- Q.5 Plastic is  
a) good conductor of electricity  
b) bad conductor of electricity  
c) good conductor of heat  
d) none of the above
- Q.6 \_\_\_\_\_ insulators are commonly use for overhead power lines.  
a) Porcelain                b) toughened glass  
c) both (a) and (b)        d) none of the above

**SECTION-B**

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

- Q.7 Forbidden energy gap between conduction band and valence band is 1 ev in case of conductors. (True/False)
- Q.8 Expand ACSR. (True/False)
- Q.9 Melting point of an insulator should not be high. (True/False)
- Q.10 Hard magnetic materials are used for making permanent magnets. (True/False)

(2)

220934

- Q.11 Thermocouple is made up of two different types of metal. (True/False)
- Q.12 Brushes in a DC machine are made of Bronze. (True/False)

### SECTION-C

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

- Q.13 List the desirable properties of good magnetic materials.
- Q.14 Explain conducting materials. Give examples of conducting materials.
- Q.15 Make a comparison between hard drawn copper and annealed copper.
- Q.16 Write the applications of silver, gold and platinum in electrical engg. filed.
- Q.17 Differentiate between P-type and N-type semiconductor.
- Q.18 Explain the thermal properties of insulating materials.
- Q.19 Describe the dielectric strength of insulating materials.
- Q.20 Enlist the properties of Sulphur hexafluoride gas and Bakelite.

- Q.21 Distinguish between soft magnetic materials and hard magnetic materials.
- Q.22 Write the properties of Chromium steel.

### SECTION-D

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

- Q.23 Differentiate between conductors, semiconductors and insulators with the help of diagram.
- Q.24 Explain various engineering materials for fabrication of motor.
- Q.25 Write properties and applications of any two:
- a) Solder
  - b) C.R.G.O
  - c) Melamines