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220934

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 forbidden gap in an insulator is (CO1)

a) Large b) Small

c) Nil d) Any of the above

Q.2 The conduction of electricity, in semiconductors, takes place due to movement of (CO1)

a) Positive ions only

b) Negative ions only

c) Positive and negative ions

d) Electrons and holes

Q.3 Resistivity of electrical conductors is most affected by (CO2)

a) Pressure b) Temperature

c) Composition d) Ageing

Q.4 Hard magnetic materials are used for making (CO2)

a) Permanent magnets

b) Temporary magnets

c) Both Permanent & Temporary magnets

d) All of the above

Q.5 Bimetal is made of two metallic strips of (CO3)

a) Unlike metals

b) like metals

c) Both like & unlike metals

d) None of the above

Q.6 Effect of moisture on the insulating materials is to (CO3)

a) Decrease dielectric constant

b) Decrease dielectric strength

c) Decrease insulation resistance

d) All of the above

SECTION-B

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

Q.7 Give two examples of semiconductors materials. (CO3)

Q.8 Expand ACSR. (CO1)

Q.9 Define energy band. (CO1)

Q.10 Cotton is non hygroscopic in nature. (T/F) (CO2)

Q.11 Give two examples of ferromagnetic materials. (CO3)

Q.12 What is hysteresis loss? (CO1)

SECTION-C

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

Q.13 What is the difference between intrinsic and extrinsic semiconductors? (CO2)

Q.14 Explain different type of energy bands. (CO1)

Q.15 What is the effect of temperature on resistance of a material? Explain with examlple. (CO3)

Q.16 Compare soft and hard magnetic materials. (CO2)

Q.17 What is C.R.G.O. and give their application?(CO1)

Q.18 Give classification of materials on the basis of atomic structure. (CO1)

Q.19 SF6 gas is mostly used in circuit breakers. Why? (CO3)

Q.20 Write a short note on bimetals. (CO1)

Q.21 List at least 4 difference between thermoplastic and thermosetting plastic. (CO2)

Q.22 Write a short note on soldering material. (CO1)

SECTION-D

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

Q.23 What is thermocouple? Explain its working and construction with suitable diagram. (CO3)

Q.24 List and explain various materials required for fabrication of transformer. (CO2)

Q.25 What are the insulating materials and give classification of insulating materials on the basis of temperature. (CO1)

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