

No. of Printed Pages : 4

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Roll No.

030931/11753

**3rd Sem./ ELECTRICAL ENGG, Power Station Engg,
Elect. & Elctx. Engg./ Arc Tech & Safety**

Subject : Electrical and Electronics Engg. Materials

Time : 3 Hrs.

M.M. : 100

SECTION-A

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

(Course Outcome/CO)

- Q.1 Name any one semiconducting materials. (CO-1)
- Q.2 The rheostats are made up of _____. (CO-2)
- Q.3 Bronze is an alloy of copper and _____. (CO-1)
- Q.4 In P-type semiconductors, the minority carriers are _____. (CO-1)
- Q.5 Name any one high resistive material. (CO-1)
- Q.6 _____ can be used as insulating material in spark plug. (CO-3)
- Q.7 Bakelite is a _____. (CO-3)
- Q.8 _____ have highest permeability. (CO-6)
- Q.9 Thermocouple is used for measurement of

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_____ (CO-2)

- Q.10 The material used for making Outer frame of a D.C machine is _____. (CO-7)

SECTION-B

Note: Very Short answer type questions. Attempt any ten parts 10x2=20

- Q.11 Define energy band. (CO-1)
- Q.12 Draw the atomic structure of Germanium (CO-1)
- Q.13 Define extrinsic semiconductor. (CO-1)
- Q.14 Mention two application of Aluminium in the field of Electrical Engg. (CO-2)
- Q.15 Mention two properties of Bronze (CO-1)
- Q.16 Mention any two Chemical properties of Insulating Materials (CO-3)
- Q.17 Mention any two applications of Polythene (CO-3)
- Q.18 Mention two properties of Porcelain. (CO-3)
- Q.19 What are magnetic materials. (CO-6)
- Q.20 What is permeability. (CO-6)
- Q.21 What is thermocouple. (CO-2)
- Q.22 Name any two Hard magnetic material (CO-6)

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SECTION-C

Note: Short answer type questions. Attempt any eight questions. 8x5=40

- Q.23 Mention any five difference between P-type semiconductor and N-type semiconductor(CO-1)
- Q.24 Explain any five Thermal properties of insulating material. (CO-3)
- Q.25 Mention any five difference between Thermosetting material and Thermo plastic material. (CO-3)
- Q.26 Mention five applications of soft magnetic materials. (CO-6)
- Q.27 Name some Thermoplastic material. Mention any two of its properties and any two of its applications. (CO-3)
- Q.28 Explain the working of H.R.C Fuse with the help of neat diagram. (CO-5)
- Q.29 What is Mica. Explain its types and Properties. (CO-3)
- Q.30 What is Ceramic. Mention any four of its Properties. (CO-3)
- Q.31 Name any five parts of a D.C machine. Mention with reasons the material used for making those

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parts.

(CO-7)

- Q.32 Define Semiconductors. Mention any four applications of superconductors. (CO-2)

SECTION-D

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.33 Explain the difference between conducting, insulation and semiconducting material on the basis of their energy bands. (CO-1)
- Q.34 What are Glass. Mention its properties and applications. (CO-3)
- Q.35 Explain the construction, working and applications of Bimetal. (CO-7)
- Q.36 What is varnish. Explain various types of varnish with their applications. (CO-3)

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