

- Q.27 Explain the constructional detail of surface mounted devices.
- Q.28 What is switch? Name the different types of switches.
- Q.29 Write an expression for energy stored in a capacitor.
- Q.30 Explain carbon film and wire wound resistor.
- Q.31 Write any 5 applications of Bimetals.
- Q.32 Explain about superconductivity materials.
- Q.33 Describe the testing method of transistors.
- Q.34 Explain the various Processes in IC manufacturing.
- Q.35 Classify the types of capacitors with their constructional detail.

SECTION-D

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

- Q.36 Explain the classification of conducting materials as low resistivity and high resistivity materials.
- Q.37 Explain the difference between Diamagnetic, Paramagnetic and Ferromagnetic materials in detail.
- Q.38 Write the characteristics and applications of the following materials:
- Silver
 - Glass

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3rd Sem / Eltx, EI, IC, Med. Eltx, Comp, Power Eltx, Elect& Eltx. Engg.

Subject:- Electrical and Electronics Materials and

Components / ECM

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 Why the copper material is choice for electrical wires?
- Copper is an excellent electrical conductor
 - Poor electrical conductors
 - Insulators
 - Superconductors
- Q.2 The energy gap is largest in _____
- Conductors
 - Semi-conductors
 - Insulator
 - Superconductor
- Q.3 Example of high resistivity material is _____
- Copper
 - Gold
 - Aluminum
 - Carbon
- Q.4 Which material is used for the manufacture of ground wire?
- Aluminum
 - Galvanised steel
 - Cast iron
 - Stainless steel

Q.5 How should the properties of strength and dielectric strength in insulating materials?

- a) High strength, high Dielectric strength
- b) Low strength, low Dielectric strength
- c) High strength, low Dielectric strength
- d) Low strength, high dielectric strength

Q6 Wire Wound Resistors are used for Applications _____.

- a) High Current
- b) Low Resistance
- c) Desired (Appreciable) Power
- d) All of the above

Q.7 The simplest kind of capacitor is _____

- a) Ceramic capacitor
- b) Electrolyte capacitor
- c) Tuning capacitor
- d) Paper capacitor

Q8 The inductors are used in _____

- a) Motors
- b) Transformers
- c) High power applications
- d) All of the above

Q.9 An step-up transformer increases _____

- a) Current
- b) Frequency
- c) Voltage
- d) Power

Q.10 What is the main component of a relay?

- a) contacts
- b) coil
- c) diode
- d) capacitor

SECTION-B

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

Q.11 Aluminum has high conductivity than Copper. (True/False)

Q.12 What is the unit of Resistance?

Q.13 Transformer works on the principle of _____.

Q.14 Define Relay.

Q.15 Expand SMD

Q.16 Draw the symbol of inductor.

Q.17 Write the full form of SCR

Q.18 List two examples of conductors.

Q.19 A device that breaks the circuit is called _____.

Q.20 The main constituent of paper is _____.

SECTION-C

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

Q.21 Differentiate between conductor, semiconductor, and insulator.

Q.22 What are the factors affecting resistance of a conducting material.

Q.23 Write any 5 applications of copper material.

Q.24 Write a short note on soft magnetic materials.

Q.25 Write a short note on thermocouple.

Q.26 Explain the working of transformer.