

**5th Sem./ Chemical
Subject : Material Science & Technology**

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple Choice Questions. All Questions are compulsory. (6x1=6)

- Q.1 Which of the following is considered a non-metal? (CO1)
a) Copper b) Aluminum
c) Carbon d) Iron
- Q.2 What is the main component in stainless steel (CO2)
a) Iron b) Copper
c) Nickel d) Zinc
- Q.3 Which material has high porosity? (CO2)
a) Glass b) Ceramics
c) Metal d) Plastic
- Q.4 Which type of glass is used for making safety windows? (CO4)
a) Soda lime glass b) Borosilicate glass
c) Potash lime glass d) Safety glass

- Q.5 What is the term for the ability of a material to withstand tensile forces? (CO2)
a) Elasticity b) Ductility
c) Tensile strength d) Hardness
- Q.6 Which metal is widely used for electrical wiring due to its high conductivity? (CO2)
a) Zinc b) Copper
c) Aluminum d) Iron

Section-B

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

- Q.7 Define porosity. (CO1)
- Q.8 State one example of a polymer. (CO3)
- Q.9 Name a commonly used ferrous metal. (CO2)
- Q.10 What is the primary use of stainless steel? (CO2)
- Q.11 Define the term 'toughness' in materials science. (CO1)
- Q.12 Mention one property of ceramics. (CO3)

Section-C

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

- Q.13 Explain the importance of material science and technology. (CO1)

- Q.14 List the differences between metals and non-metals. (CO2)
- Q.15 Explain properties and use of polypropylene. (CO3)
- Q.16 Describe the concept of corrosion resistance in materials. (CO2)
- Q.17 Explain the terms elasticity and plasticity. (CO1)
- Q.18 What are the properties of wrought iron? (CO3)
- Q.19 Write about polycarbonates. (CO4)
- Q.20 Discuss the types of glass used in industry. (CO3)
- Q.21 Discuss the properties of materials use for handling of sulphuric acid. (CO4)
- Q.22 Describe two properties and used of ceramics. (CO3)

Section-D

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

- Q.23 Describe the different properties of materials and provide examples. (CO1)
- Q.24 Discuss the iron-carbon (Fe-C) diagram in detail. (CO2)
- Q.25 Explain the properties of materials suitable for handling acids in the process industry. (CO4)