

- Q.29 Write different uses of Aluminum as an Engineering materials.
- Q.30 Explain in brief need or importance of alloy making.
- Q.31 Write a short note on important aluminum alloys.
- Q.32 Write any five uses of Polycarbonate.
- Q.33 Write a short note on earthenware and stoneware.
- Q.34 Write any five common properties of Glass.
- Q.35 Write about ductility and malleability of engineering materials.

### SECTION-D

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

- Q.36 Explain Iron-carbon phase diagram with neat and clean diagram in detail.
- Q.37 Explain properties and uses of various copper alloys and nickel alloys in detail.
- Q.38 Define stainless steel and classify it, Explain composition, properties and uses of each type of stainless steel.

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**3rd Sem / Chem**  
**Subject:- Introduction of Engineering materials/**  
**Engg. Materials**

Time : 3Hrs.

M.M. : 100

### SECTION-A

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

- Q.1 Carbon content in Steel varies:
- a) More than 2.1%
  - b) More than 6.67%
  - c) Between 2.1 to 6.67%
  - d) less than or equal to 2.1%
- Q.2 Iron-carbon diagram is a graphical relation of
- a) Temperature and time
  - b) Time and Carbon concentration
  - c) Temperature and Carbon concentration
  - d) None of these
- Q.3 Which of material is best in electrical conductivity
- a) Iron
  - b) Copper
  - c) Rubber
  - d) PVC
- Q.4 Glass is a \_\_\_\_\_ solid material.
- a) Inorganic
  - b) Brittle
  - c) Transparent
  - d) All of these

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- Q.5 Which of the following is not a ceramic materials  
a) Bricks                  b) Cement  
c) Glass                  d) Rubber
- Q.6 Which of the following is a non-metal  
a) Iron                  b) Lead  
c) Carbon                  d) Brass
- Q.7 Which of the following material is used in aircraft parts  
a) Steel                  b) Pig iron  
c) Cast iron                  d) Aluminum
- Q.8 In stainless steel major alloying element are  
a) chromium                  b) Nickel  
c) Copper                  d) None of these
- Q.9 BIS stands for  
a) Bureau of Indian Standard  
b) Bureau of Information Standard  
c) Bureau of Instruments Standard  
d) None of these
- Q.10 Which of most ductile material  
a) Steel                  b) Copper  
c) Molted iron                  d) Wrought Iron

### SECTION-B

**Note:** Objective type questions. All questions are compulsory.  $(10 \times 1 = 10)$

- Q.11 Define engineering materials.

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- Q.12 Define ferrous metals  
Q.13 Name any one Ore of Iron.  
Q.14 Write one disadvantage of non-ferrous metals  
Q.15 Write any one use of zinc metal  
Q.16 Define alloys.  
Q.17 Write full forms of LDPE & HDPE  
Q.18 Write one application of Pig iron.  
Q.19 Define glass transition temperature  
Q.20 Write one use of PVC material.

### SECTION-C

- Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions.  $(12 \times 5 = 60)$
- Q.21 Explain in brief importance of materials in chemical engineering.  
Q.22 Define metals. Write any four properties of metals as Engineering materials.  
Q.23 Write short note on metalloids in brief.  
Q.24 List out and explain use of any five Engineering material in chemical industries.  
Q.25 Write important properties of wrought iron.  
Q.26 Write a short note on types of cast iron.  
Q.27 Differentiate between ferrous and non-ferrous metals  
Q.28 Explain any five properties of Copper.

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