

- Q.27 Write specification of material according to BIS.  
 Q.28 Write use of aluminum in chemical Industries.  
 Q.29 What are properties of stainless steel.  
 Q.30 What is classification of engineering materials.  
 Q.31 Write some mechanical properties of material used in industry.  
 Q.32 Write different types of rubber.  
 Q.33 What are factors affecting the physical properties of steel?  
 Q.34 What are alloys of copper?  
 Q.35 Write some properties and uses of glass.

#### **SECTION-D**

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 What are polymers? Discuss different types of polymers?  
 Q.37 What is non-ferrous material? Define types of non-ferrous material with examples.  
 Q.38 Write classification properties and uses of steel.

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**3rd Sem / Chemical Engineering**  
**Subject:- Introduction to Engineering Materials**  
**/ Engg. Materials**

Time : 3Hrs.      M.M. : 100

#### **SECTION-A**

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

- Q.1 A material is said to be allotropic, if it has
  - a) Fixed structure at all temperatures
  - b) atoms distributed in random pattern
  - c) different crystal structures at different temperature
  - d) None
- Q.2 Wrought iron is
  - a) is a ductile material
  - b) can be easily forged and welded
  - c) cannot stand sudden and excessive shock
  - d) all of these
- Q.3 Brass is an alloy of
  - a) Copper and Zinc      b) Copper and tin
  - c) Copper, tin and zinc      d) None
- Q.4 Which of the following is ceramic.
  - a) ABS      b) Polystyrene
  - c) Aluminum Oxide      d) None

- Q.5 Pig iron is the name given to  
a) Raw material for blast furnace  
b) Product of blast furnace made by reduction of iron ore  
c) Iron containing huge quantities of carbon  
d) Iron in molten form in the ladles
- Q.6 An example of amorphous material is  
a) Zinc                      b) Lead  
c) Silver                      d) Glass
- Q.7 Steel is made from phosphate iron is  
a) Brittle                      b) Hard  
c) Ductile                      d) Tough
- Q.8 Which is false statement about tempering ?  
Tempering is done to  
a) Improve machinability  
b) improve ductility  
c) Improve toughness  
d) Release stress
- Q.9 Super conduction by metals is observed in the temperature range of  
a) Below 10°K                b) Above 100°K  
c) Around 0°C                d) None
- Q.10 The material in which the atoms are arranged regularly in some directions but not in others, is called  
a) Amorphous material b) Crystalline material  
c) Mesomorphs Material d) None

## SECTION-B

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

- Q.11 What is tensile strength?  
Q.12 What is malleability?  
Q.13 Write one method of improving strength.  
Q.14 Write unit of thermal conductivity?  
Q.15 What is crystal melting temperature?  
Q.16 Write one type of glass.  
Q.17 Write composition of glass.  
Q.18 Write full form of HDPE.  
Q.19 Write one aluminum ore.  
Q.20 Write one copper alloy

## SECTION-C

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

- Q.21 Write use of engineering material in chemical Industry.  
Q.22 What is ferrous material. Write example of ferrous material.  
Q.23 Write uses of engineering materials.  
Q.24 Define glass. What classification of glass.  
Q.25 What are alloys for aluminum?  
Q.26 Write properties and uses of pig iron.