

- Q.28 Write a short note on non-ferrous metal. (CO7)
- Q.29 Explain the basic steps in powder metallurgy? (CO10)
- Q.30 What are the different processes for manufacturing of powder in powder metallurgy? Explain briefly. (CO10)
- Q.31 Explain different methods and procedures to control the corrosion. (CO11)
- Q.32 What are the different types of pollution. Explain briefly. (CO12)
- Q.33 Differentiate between thermoplastic and thermosetting plastic with examples. (CO9)
- Q.34 Explain the different types of hardness test methods. (CO6)
- Q.35 Explain the following non-ferrous alloy: (CO7)
 a) German silver b) Duralumin

SECTION-D

- Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)
- Q.36 What is non-destructive testing? Explain any two types of non-destructive testing. (CO6)
- Q.37 Briefly describe the manufacturing and application of following elements: (CO7)
 a) Zinc b) Magnesium
 d) Nickel d) Tin
- Q.38 Write a short note on specification and designation of steel with commercial aspects (BIS Standard). (CO2)

No. of Printed Pages : 4

Roll No.

202014

1st Year / Branch : Advance Diploma in Tool and Die Making.
Subject:- Material Science

Time : 3Hrs.

M.M. : 100

SECTION-A

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

- Q.1 _____ is not a plain carbon steel. (CO2)
 a) Low carbon steel b) Medium carbon steel
 c) High carbon steel d) Alloy steel
- Q.2 The property of material by virtue of which it can be rolled into thin sheet is called (CO3)
 a) Malleability b) ductility
 c) Plasticity d) toughness
- Q.3 Unit of stress in S.I system is (CO3)
 a) N/m² b) N/M
 c) N/m³ d) None of the above
- Q.4 Glass is a _____ (CO5)
 a) Polymer b) ceramic
 c) metal d) None of the above
- Q.5 Cold working occurs when metal is deformed _____ its recrystallization temperature . (CO4)
 a) above b) below
 c) metal d) None of the above

- Q.6 Indentation hardness measured by _____ (CO6)
 a) Izod test b) Brinell test
 c) Charpy test d) creep test
- Q.7 _____ is an example of ferrous metal. (CO7)
 a) Copper b) Aluminium
 c) Zinc d) Cast iron
- Q.8 How many number of atoms per unit cell of BCC crystal? (CO1)
 a) 1 b) 2
 c) 3 d) 4
- Q.9 Schottky's defect is which type of crystal imperfection ? (CO1)
 a) Point imperfection
 b) Line imperfection
 c) Surface imperfection
 d) Volume imperfection
- Q.10 Which one is not a characteristic of plastics? (CO9)
 a) Low density
 b) Machinability
 c) High strength
 d) Large plastic deformation

SECTION-B

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

- Q.11 Define creep. (CO3)
- Q.12 Bronze are alloy of copper and tin. (True/False) (CO7)

- Q.13 Define strain. (CO3)
- Q.14 What is metal? (CO1)
- Q.15 Define crystal. (CO1)
- Q.16 Give the percentage of carbon in white cast iron. (CO2)
- Q.17 Define slip. (CO4)
- Q.18 What is oxidation. (CO11)
- Q.19 Aluminum is commonly used in powder metallurgy. (True/False). (CO10)
- Q.20 Define pollution. (CO12)

SECTION-C

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

- Q.21 Explain the effects of the following elements on steel: (CO5)
 a) Nickel b) Silicon c) Carbon
- Q.22 Give the classification of the materials. (CO1)
- Q.23 Explain any five mechanical properties of a material. (CO3)
- Q.24 What is hot working process ? Explain its merits and demerits? (CO4)
- Q.25 Explain different properties and application of refractory material (CO8)
- Q.26 Explain the application of following types of cast iron: (CO2)
 a) Malleable cast iron
 b) Nodular cast iron
 c) Spheroidal cast iron
- Q.27 What are the different forms of iron ? Explain briefly. (CO2)