

- 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 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)

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Roll No.

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/m^2 b) N/M
c) N/m^3 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)

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- 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)

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