Q.31 Write the properties of solid solution alloys (any five) (CO3)

Q.32 Write the uses of high carbon steel (any five) (CO3)

Q.33 Write the properties of high speed steel. (CO4)

Q.34 What is dipping? (CO5)

Q.35 Write any five application of composite materials?

SECTION-D

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

Q.36 Explain tensile test for a specimen of Brittle material. (CO2)

Q.37 Explain common methods and procedures to control and prevent corrosion. (CO6)

Q.38 What is Plastic? What are its different types? Explain. (CO5)

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 The tesnsile strength of mild steel is_____as compared to cast iron. (CO1)

a) More b) Less
c) Equal d) None of these

Q.2 Fatigue cracks normally start at (CO2)

a) Centre of specimen
b) Core of specimen
c) Surface of specimen
d) All of these

Q.3 The ability of the material to resist fracture due to high impact loads is. (CO2)

a) Toughness b) Hardness
c) Brittleness d) None of these

Q.4 In B.C.C. structure, the number of atoms in a unit cell are (CO2)

a) 1 b) 2
c) 4 d) 6

Q.5 Crystal structure of magnesium is (CO3)

a) F.C.C. b) B.C.C.
c) S.C. d) H.C.P.

Q.6 Fatigue results in (CO3)

a) Brittle fracture b) Ductile fracture
c) Elongation d) None of these

Q.7 Which of the following is an amorphous material? (CO3)

a) Glass b) Mica
c) Brass d) Copper

Q.8 Which of the following in an alloy (CO4)

a) Gold b) Silver
c) Brass d) None of these

Q.9 The purest form of iron (CO4)

a) Pig iron b) Cast iron
c) Steel d) Wrought iron

Q.10 Silicon improves the_____properties of steel. (CO5)

a) Electrical b) Mechanical
c) Thermal d) Magnetic

SECTION-B

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

Q.11 Define element. (CO1)

Q.12 Define metal. (CO1)

Q.13 Name any two metalloids. (CO1)

Q.14 Define fatigue. (CO2)

Q.15 Define unit cell. (CO2)

Q.16 Name two types of solids. (CO2)

Q.17 How many atoms are there in the unit cell of simple cubic structure. (CO3)

Q.18 Define toughness. (CO3)

Q.19 Define ceramics. (CO5)

Q.20 Name types of line defect. (CO3)

SECTION-C

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

Q.21 Define Ferrous metals with one example. (CO1)

Q.22 Define Hardness and Brittleness of a material. (CO1)

Q.23 Define Creep. (CO1)

Q.24 Draw cooling curve of a pure metal. (CO2)

Q.25 Define atomic packing factor. (CO2)

Q.26 Differentiate between intrinsic and extrinsic semi-conductors. (CO1)

Q.27 What do you mean by physical properties of a material? Name any four. (CO1)

Q.28 Differentiate between elastic and plastic deformation. (CO2)

Q.29 Derive an expression for the atomic radius of body centered cubic structure. (CO2)

Q.30 What are line defects? What are its various types? (CO2)