Q.30 Classify heat concept of plastic coating. Give its types. (CO-2)

Q.31 Draw stress strain curve of ductile material. (CO-2)

Q.32 Define ductility of a material. (CO-1)

Q.33 Write the four uses of bio-materials. (CO-2)

Q.34 Differentiate between ferrous metals and non-ferrous metals. (CO-2)

Q.35 Define Plain carbon steel and it types. (CO-1)

SECTION-D

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

Q.36 Describe Various heat treatment processes. (CO-6)

Q.37 Define four refractory materials? Give their applications with properties. (CO-1)

Q.38 Draw and explain Iron carbon diagram listing its constituents and explain its phases. (CO-3)

Roll No. .....

2nd Sem / Mech. Engg. (MSIL)
Subject:- Materials and Metallurgy

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 Define Alloy.

Q.2 Write the chemical formula of Magnetite.

Q.3 Which of the following is an alloy? (CO-3)

a) Brass b) Gold

c) Silver d) Aluminium

Q.4 The ability of the material to resist fracture due to high impact load is. (CO-2)

a) Toughness b) Hardness

c) Brittleness d) None of these

Q.5 Write the names of commonly used aluminium alloys.

Q.6 Which of the following is not the objective of annealing. (CO-1)

a) Remove internal stresses

b) Refine grain size

c) Refine structure

d) Improve machinability

Q.7 Thermocole is:-

a) Odourless b) Chemically Stable

c) Moisture resistant d) All of these

Q.8 In nitriding steel components, the following atmosphere is generally used in the furnace. (CO-1)

a) Inert b) Ammonia

c) Liquid nitrogen d) Carbon

Q.9 In structure, all metals are. (CO-1)

a) Crystalline b) Granular

c) Wrought d) Amorphous

Q.10 In iron carbon diagram lower critical temperature is.....

SECTION-B

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

Q.11 Write the classification of materials. (CO-1)

Q.12 Name any two semi-conductors. (CO-2)

Q.13 Describe fracture? (CO-1)

Q.14 Give the industrial application of Aluminium. (CO-1)

Q.15 How many atoms are in one FCC unit cell? (CO-2)

Q.16 Write two alloys of copper and there composition. (CO-1)

Q.17 Define alloy steel. (CO-2)

Q.18 Nome two cutting tool Materials. (CO-1)

Q.19 Define metal. (CO-2)

Q.20 Define thermoplastics. (CO-2)

SECTION-C

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

Q.21 Explain TTT diagram.. (CO-3)

Q.22 What are heat treatment process? Explain any one process (CO-1)

Q.23 What do you mean by Alloy? Write any five uses of Alloys. (CO-1)

Q.24 Explain hardening of steel.. (CO-1)

Q.25 Write at least four objectives of heat treatment. (CO-2)

Q.26 Find the number of atoms per unit cell in BCC and in FCC, (CO-1)

Q.27 Write the different methods of manufacturing of steel? (CO-2)

Q.28 List and explain any five properties of ceramics. (CO-1)

Q.29 Differentiate Point defects and line defects in crystals. (any four) (CO-2)