Q.26 Write a short note on Decarburising and excessive Hardness.

Q.27 Discuss various quenching media used in heat treatment of steel

Q.28 Describe the flow diagram of steel making.

Q.29 Explain the nitriding. Also write its application.

Q.30 Define Ledeburite and pearlite

Q.31 Write the advantages of surface hardening.

Q.32 What is pyrometer? What are its different types.

Q.33 Explain Pack Carburizing

Q.34 What is cyaniding process? Five its advantage and applications.

Q.35 Explain the properties of austenitic steels.

SECTION-D

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

Q.36 Explain in brief IRON-CARBON-DIAGRAM with neat diagram.

Q.37 What is heat treatment furnace? What are its different types? Explain any two.

Q.38 Define Heat treatment process. Explain the various heat treatment process.

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5th Sem / T & D, Found & Forg.
Subject:- Heat Treatment

Time : 3Hrs. M.M. : 100

SECTION-A

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

Q.1 In the process of normalizing of steel, The steel is heated above its upper critical temperature in the range of

a) 200 to 150 deg b) 80 to 100 deg
c) 30 to 50 deg d) 110 to 200 deg

Q.2 The process of obtaining spherical grains of Fe_3C in steel in the process of annealing is known as

a) Martempering b) Spherodizing
c) Tempering d) Maraging

Q.3 Heat treatment is often done to

a) Joins plates
b) Non-Destructive testing of plates
c) Stress reliving of cold working material
d) Remove crack in weld

Q.4 Which of the following case hardening process result in a change in the composition of steel component? 1 Carburizing, 2 cyaniding, 3 nitriding, 4 flame hardening

a) 2,3 and 4 only b) 1,3 and 4 only
c) 1,2,3 only d) 1,2,3 and 4

Q.5 Material after cold working are subjected to following process to relive stress.
a) hot working b) tempering
c) normalizing d) annealing

Q.6 The austenite stainless steel contain
a) 18% chromium and 8% nickel
b) 18% chromium and 18% nickel
c) 8% chromium and 18% nickel
d) 8% chromium and 8% nickel

Q.7 Alloy of copper and zinc is known as _____
a) brass b) bronze
c) duralumin d) iron

Q.8 Major constituent of duralumin alloy is
a) copper b) nickel
c) iron d) aluminum

Q.9 _____ is a surface hardening process gives maximum harness to the surface
a) Pack hardening b) Nitriding
c) Cyaniding d) Induction hardening

Q.10 The machine tool guideway are usually harndened by
a) Flame hardening b) Induction hardening
c) Vaccum hardening d) matempering

SECTION-B

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

Q.11 Name any two heat treatment furnace

Q.12 Expand T.T.T

Q.13 Define martensite

Q.14 What is a pyrometer?

Q.15 What is eutectoid steel?

Q.16 Name any two type of annealing

Q.17 What is the carbon percentage of cementite?

Q.18 Define Quenching

Q.19 Define solvent

Q.20 Explain Allotropy

SECTION-C

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

Q.21 Differentiate between eutectic point and eutectoid point.

Q.22 Explain the concept of defects during heat treatment

Q.23 Explain how T.T.T Diagram is useful for heat treatment purpose?

Q.24 Differentiate between Gray and white cast Iron.

Q.25 Write is a Quenching? Write its purposes.