Q.15 Explain the following

a) Hypo eutectoid

b) Hyper eutectoid

Q.16 Explain the Need of heat treatment for cast iron and its applications

Q.17 Enlist the various different processes of heat treatment for steel. Explain any two.

Q.18 What is carburizing? Gives the advantages of carburizing.

SECTION-D

Note: Long answer questions. Attempt any one questions out of two questions. (10x1=10)

Q.19 Draw a neat labeled iron-carbon diagram, Explain it giving various phases.

Q.20 Describe various defects, their causes and remedial measures to control defects during heat treatment.

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SECTION-A

Note: Multiple Choice Questions. All Questions are Compulsory. (5x1=5)

Q.1 Which of the following is the hardest constituent of steel?

a) Ledeburite

b) Austenite

c) Bainite

d) Martensite

Q.2 For steel, which one of the following properties can be enhanced upon annealing?

a) Hardness

b) Toughness

c) Ductility

d) Resilience

Q.3 The melting point of iron (in °C) is?

a) 768

b) 1535

c) 1410

d) 910

Q.4 Alloys containing 2.0-6.7% carbon are considered as _____.

a) Steel

b) Cast-iron

c) Aluminum

d) Brass

Q.5 The heat treatment process use for casting is.

a) Carburizing

b) Normalizing

c) Annealing

d) None of the above

Section-B

Note : Objective Type Questions. All Questions are Compulsory. (5x1=5)

Q.6 _____gives hardness to surface.

Q.7 Austenite phase occurs between _____to _____temperature.

Q.8 A steel with carbon below 0.8% is called hypoeutectoid steel. (True or false)

Q.9 _____structure is obtained if steel is quenched in water.

Q.10 Expand T.T.T.

SECTION-C

Note: Very Short Answer Questions. Attempt Any Six Questions out of Eight Questions. (6x5=30)

Q.11 Explain Furnace atmosphere and its practical importance.

Q.12 Enlist the various micro constitutes of iron.

Q.13 How you define Allotropy of iron.

Q.14 Define heat treatment and write its application with reference to various processes.