

No. of Printed Pages : 4
Roll No.

202022

2nd Year / Advance Diploma in Tool and Die Making
Subject : Heat Treatment

Time : 3 Hrs.

M.M. : 50

SECTION-A

Note: Multiple Choice questions. All questions are compulsory. (5x1=5)

Q.1 Sorbite is obtained when

- a) steel is quenched b) steel is annealed
- c) steel is hardened d) none of the above

Q.2 While hardening of steel, the component is cooled in

- a) still air b) water or oil
- c) furnace d) none of the above

Q.3 The object of annealing is

- a) To soften the metal
- b) To refine grain structure
- c) To relieve internal stresses
- d) All of the above

- Q.4 Hyper-eutectic cast iron contains_____ 4.3%
- a) Equal to b) More than
c) Less than d) None of the above
- Q.5 The essential constituent of a hardened steel is
- a) Martensite b) Troostite
c) Pearlite d) All of the above

SECTION-B

Note: Objective type questions. All questions are compulsory. (5x1=5)

- Q.6 Jominy test is a methods of measuring the _____ of steel.
- Q.7 Normalising is used to_____ the structure of steel.
- Q.8 If Steel is cooled in still air, the micro structure obtained is sorbite (True/False)
- Q.9 Case hardening process is for nitriding
- a) True b) False
- Q.10 In heat treatment, the metal and alloy are holding at_____ phase.

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SECTION-C

Note: Short answer type questions. Attempt any six questions out of Eight questions. (6x5=30)

- Q.11 Define Hardenability and write its application.
- Q.12 Explain Various steps in process of flame hardening.
- Q.13 What is tempering? What is the purpose of tempering?
- Q.14 How will you classify the tool steel?
- Q.15 Define cast iron also list the different type of cast iron.
- Q.16 Write a short note on thermo-chemical treatment.
- Q.17 Enlist the various Objective of heat treatment.
- Q.18 What are various requirements of a heat treatment furnace?

SECTION-D

Note: Long answer type questions. Attempt any one questions out of two questions. (1x10=10)

- Q.19 What is heat treatment furnace? Classify its different type? Explain any two.
- Q.20 Describe transformation into various phases of steel with help of TTT curve.

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