

NETTUR TECHNICAL TRAINING FOUNDATION
DIPLOMA IN TOOL ENGINEERING & DIGITAL MANUFACTURING – CP01
II SEMESTER REGULAR & SUPPLEMENTARY EXAMINATION-JULY 2023

Subject: Material Technology
Subject Code: CP01208T

Total Time: 2 Hr.
Total Marks: 50

PART B

1.0 ANSWER ANY EIGHT OF THE FOLLOWING

2*8=16

- 1.1 State four ferrous materials used in engineering field.
- 1.2 What is melting point of a material?
- 1.3 Name two magnetic property of materials
- 1.4 What do you mean by steel?
- 1.5 Write two influence of carbon on the properties of steel.
- 1.6 Classify tool steels according to AISI specification
- 1.7 Name any four elements of jigs and fixtures and mention their tool steels.
- 1.8 State the properties of bronze
- 1.9 What do you mean by visual inspection?
- 1.10 How are Aluminium Alloys classified?

2.0 ANSWER ANY SIX OF THE FOLLOWING

3*6=18

- 2.1 Draw the flow diagram of engineering materials.
- 2.2 Write short notes on Elasticity and Plasticity
- 2.3 When a steel is considered to be an Alloy steel?
- 2.4 What do you mean by 18-4-1 Tungsten HSS?
- 2.5 What is the need or purpose of testing a material?
- 2.6 Describe Process inspection (process test).
- 2.7 What do you mean by destructive & nondestructive test? Give examples.
- 2.8 In Press tool write the material of the following:
 - 1) Top & bottom plate,
 - (2) Punch holder,
 - (3) Punch and Die

3.0 ANSWER ANY FOUR OF THE FOLLOWING

4*4=16

- 3.1 What are the materials applicable to metal working?
- 3.2 Explain the manufacturing of cast iron in cupola furnace with a neat sketch.
- 3.3 Write the influence of the following elements on the properties of HSS:
 - (1) Tungsten,
 - (2) Molybdenum,
 - (3) Chromium,
 - (4) Vanadium.
- 3.4 Write a short notes on White cast iron & Grey cast iron.
- 3.5 Explain Vickers Hardness test
- 3.6 Explain stress strain curve with a neat sketch

