

**NETTUR TECHNICAL TRAINING FOUNDATION
DIPLOMA IN TOOL ENGINEERING & DIGITAL MANUFACTURING– CP01
III SEMESTER SUPPLEMENTARY EXAMINATION-JUNE 2023**

**Subject: Jigs & Fixtures
Subject Code: CP01311T**

**Total Time: 2 Hr.
Total Marks: 50 Marks**

PART B

1.0 ANSWER ANY EIGHT OF THE FOLLOWING

2*8=16

- 1.1 What is a jig? Mention any two types
- 1.2 When do you prefer a plate jig?
- 1.3 What is "indexing jig"?
- 1.4 List out the advantages of "Template jig"
- 1.5 Why "Slip bushes" are used in Jigs?
- 1.6 What are the "Elements" of Jigs & Fixtures design?
- 1.7 Write a short on "Wedge clamps"
- 1.8 List out any four different types of "Clamps" used on Jigs & Fixtures
- 1.9 Before machining, How the "Cutting tool is positioned" with relation to workpiece on a milling fixture
- 1.10 What is "Swarf"?

2.0 ANSWER ANY SIX OF THE FOLLOWING

3*6=18

- 2.1 List out any six different types of "Jigs"? Briefly explain one
- 2.2 Briefly explain any six types of "Drill bushes"
- 2.3 What are the "Principles of clamping"?
- 2.4 List out any four differences between "Jigs & Fixtures"
- 2.5 Briefly write about "Jig & machine relation"?
- 2.6 List out any three differences between "Strap clamps & screw clamps"
- 2.7 Briefly explain how to find the "economy and cost" of Jigs & fixtures
- 2.8 List out the "Elements" used in Jigs & Fixtures & mention their required "Hardness".

3.0 ANSWER ANY FOUR OF THE FOLLOWING

4*4=16

- 3.1 Explain the "Leaf jig" with neat diagram
- 3.2 How "Quick acting cam operated clamps" are functioning? Explain in detail
- 3.3 Explain vice jaw fixture
- 3.4 What are the "steps followed" while designing a Jigs & Fixtures?
- 3.5 Why "Magnetic and vacuum chucks" are used? Explain with an example
- 3.6 Differentiate between "Fool proofing of work & redundant location"? Give one example of each

