

Indian Madritime University
(A Central University, Govt of India)

Sep/Oct'25 SE

Programme Name: B Tech (Marine Engineering)

Semester: First (1st)

Subject Code: UG11T5104

Subject Name: WORKSHOP TECHNOLOGY

Date: 04.09.2025

Max Marks: 70

Duration: 03 Hrs

Pass Marks: 35

General Instructions

- (i) All Sections (A, B & C) are to be attempted.
- (ii) Options, if any, are specified in respective section.

Section A

Ten MCQs/Fill in the Blanks of **01 Mark each** – Choose the correct answer as applicable.

1. What is the purpose of regular safety training sessions?

- (a) To waste employees' time
- (b) To improve employee morale
- (c) To keep employees up-to-date on safety procedures
- (d) To assign blame in case of accidents

2. What is the purpose of Safe working Practices-

- (a) Minimum Risk to person & Process
- (b) Minimum Risk to Equipment & Environment
- (c) Minimum Risk to Material
- (d) Minimum Risk to all of the Above.

3. The function which do not done by fixture-

- (a) Hold the work piece
- (b) Locate the work piece
- (c) Guide the tool
- (d) Hold and guide the work piece

4. Continuous chips form when –

- (a) Speed is high, feed is low
- (b) speed is high, feed is high
- (c) Speed is low, feed is low
- (d) Speed is high, feed is low

5. The power is transmitted by lead screw to the carriage through-
- (a) Gear box
 - (b) Half Nut
 - (c) Rack and pinion
 - (d) Worm and worm gear
6. For harder material the helix angle of drill is -
- (a) less than 45°
 - (b) Equal to 45°
 - (c) Between 45° to 60°
 - (d) Between 60° to 90°
7. Size of the Shaper machine is given by-
- (a) Motor power
 - (b) Weight of the machine
 - (c) Height of the machine
 - (d) Stroke Length
8. Which Shielding gas is used in TIG welding
- (a) Carbon dioxide
 - (b) oxygen
 - (c) hydrogen
 - (d) Argon
9. The specification of a grinding wheel is "50 C 46 H 5 E 18". What does the letter "H" indicate-
- (a) Grade
 - (b) Grain Size
 - (c) Abrasive type
 - (d) Structure
10. In which type of Fit, the tolerance zone of the shaft goes above the tolerance zone of the hole.
- (a) Loose fit
 - (b) close fit
 - (c) Transition fit
 - (d) Interference fit.

Section B

Five Questions of **02 Marks each**

- 11. What is Safe working Practice.
- 12. Write the Function of JIG and Fixture.
- 13. Explain the Up & Down milling with Suitable Diagram.
- 14. Define BORING and COUNTER BORING with Suitable Diagram.
- 15. Define ORTHOGONAL CUTTING and OBLIQUE CUTTING with Diagram.

Section C

Seven Questions of **10 Marks each** of which any 05 questions to be answered.

16. Explain with suitable diagram and example –

(a) Fixed and adjustable machine guards.

(5 Marks)

(b) Resistance seam welding.

(5 Marks)

17. Write the Short note on-

(a) Anvil.

(5 Marks)

(b) Bench vice.

(5 Marks)

18. Explain the centerless grinding process with Suitable Diagram. Also define buffing process.

(7+3 marks)

19.

Explain the working principle and parts of lathe machine with suitable diagram.

(10 Marks)

20. Write the working and construction of radial drilling machine. Also write difference between sensitive drilling machine and radial drilling machine.

(7+3 Marks)

21. Define-

(a) Brazing & Soldering and use of these two.

(5 Marks)

(b) Interference Fit and clearance fit with Diagram.

(5 Marks)

22.

(a) Explain the principle and application submerged arc welding.

(5 Marks)

(b) Write the working and construction of Shaper machine.

(5 Marks)

