

Indian Maritime University
(A Central University, Govt of India)
End Semester Examinations – December 2024
Programme Name: B Tech (Marine Engineering)
Semester: First
Subject Code: UG11T5104
Subject Name: WORKSHOP TECHNOLOGY

Date: 19.12.2024

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. Grooves provided on the entire length of the body of a twist drill is called

- a) Webs
- (b) Flutes
- c) Lips
- (d) Margins

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. What does PPE stand for

- a) Personal product Enhancement
- (b) Protective Personnel Equipment
- c) Personal Protective Equipment
- (d) Proper Protection Essentials

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. Clearance between the mating parts is measured using
- a) Dial gauge
 - (b) Go gauge
 - c) No-go gauge
 - (d) Feeler gauge
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. In a lathe machine, a follower steady rest is fixed on
- a) Tailstock
 - (b) Bed
 - c) Face plate
 - (d) Saddle
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 the shaping process, the cutting tool moves in a _____
- a) Parabolic motion
 - (b) Elliptical motion
 - c) Circular motion
 - (d) Straight motion

Section B

Five Questions of **02 Marks each**

- 11. What is Safe working Practice.
- 12. Describe the screw pitch gauge?
- 13. Explain the Up & Down milling with Suitable Diagram.
- 14. Explain briefly the concept of reliability?
- 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. a) Explain the various types of chips produced during the machining operation.

b) Illustrate the construction of column and knee milling machine with the help of diagram.

(3 + 7 marks)

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

(7+3 marks)

19.

a) Define limits and tolerance with the necessary diagram. Explain the role of tolerance in manufacturing.

b) Explain the function of machine guards. Mention various types of the machine guards and briefly describe any two types of guards.

(6 + 4 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. a) Explain in details the main parts of the bench grinding machine with the help of neat sketch.

b) Discuss the grinding wheel marking system and give details of the marking system specification.

(4 + 6 marks)

22.

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

(5 Marks)

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

(5 Marks)

