

INDIAN MARITIME UNIVERSITY
(A Central University, Govt. of India)

End Semester Examination – December 2022

Program Name: B. Tech (ME)

Semester - I

Subject Code: UG11T4105

Subject Name: Workshop Technology

Date: 29th Dec 2022

Max Marks: 70

Duration: 3 Hours

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

Marks: 10x1=10

Attempt all questions

1. Name the suitable tool used for marking the straight line at the Work Piece
 - a) Pencil
 - b) Scriber
 - c) Centre Punch
 - d) Divider
2. _____ is provided in drill for the passage of chips and Cutting Fluid
 - a) Shank
 - b) Flutes
 - c) Tang
 - d) Clearance
3. Sharpening angle of chisel varies from
 - a) 0° - 10°
 - b) 20° - 25°
 - c) 30° - 35°
 - d) 45° - 90°
4. Internal or external tapers on a turret Lathe can be turned by
 - a) Face turning attachment
 - b) Taper turning attachment

- c) Sliding attachment
- d) Morse taper attachment

5. Which of the following operation can be performed in shaper
 - a) Gear cutting
 - b) Keyways cutting
 - c) Curvilinear contours
 - d) All of the above
6. During milling, the cutter manually moves
 - a) Perpendicular to its axis
 - b) Parallel to its axis
 - c) Inclined to its axis
 - d) Any of the above
7. In a planer
 - a) Both work piece and tool rotate
 - b) Both tool and workpiece reciprocate
 - c) Tool reciprocates and workpiece is stationary
 - d) Workpiece reciprocates and tool is stationary
8. In TIG welding, which type of electrode is used
 - a) Non consumable electrode
 - b) Cored Electrode
 - c) Continuous consumable wire electrode
 - d) Stick electrode
9. The grade of the grinding wheel depends upon
 - a) The thickness of the material being ground
 - b) Speed of the wheel and work
 - c) Condition of grinding machine
 - d) All of the above
10. Which cutting condition affects the cutting temperature predominantly
 - a) Depth of cut
 - b) Cutting speed
 - c) Feed
 - d) None of the above

Group - B

Attempt all questions

Marks: 2x5=10

- b) Write down the difference between a Shaper and a Planer. What are the parts involved in the Tool head of a planer? (3+7)
21. Draw a neat sketch of a 'Milling Machine' mentioning different parts and briefly describe them. (10)

22. a) What is the working principle of a Lathe Machine? Explain with sketch. (5+5)
 b) Describe the following operation done in lathe with diagram: 'Facing', 'Threading' and 'Knurling'.

11. Explain the working principle of a drilling machine
 12. Explain in Brief 'TIG' welding
 13. What are the objectives of industrial safety?
 14. What are the advantages of using cutting fluid in Metal cutting?
 15. What is an 'Apron' in a Lathe Machine

Group-C
Attempt all questions Marks: 10x5=10

16. a) List out the welding defects and mention the causes for the same.
 b) With the help of diagram explain 'Surface Plate' and 'V-Block' (6+4)

17. a) Explain the uses of the following tools:
 -Files
 -Caliper
 -Try Square (5+5)
 b) Outline the nomenclature of a cutting tool geometry.

18. Explain the different Grinding process and the necessary safety measures to be taken during Grinding. (8+2)

19. Write short notes on the following with necessary diagram.
 a) Basic size
 b) Nominal size
 c) Tolerance
 d) Allowance
 e) Fits (2+2+2+2+2)

20. a) How do you specify a Shaper Machine?