

014/2025

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. The property of a material which enables it to draw out into thin wire is called :
(A) Stiffness (B) Ductility
(C) Elasticity (D) Toughness
2. What is the carbon percentage of cast iron?
(A) 0.6% to 1.2% (B) 0.8% to 1.6%
(C) 5% to 6% (D) 2% to 4%
3. The carbon percentage of medium carbon steel is :
(A) 0.3% to 0.6% (B) 0.05% to 0.15%
(C) 0.6% to 1.7% (D) 2.5% to 3%
4. Bronze is an alloy of :
(A) Copper and Zinc (B) Tin and Lead
(C) Copper and Tin (D) Tin and Zinc
5. The melting point of Zinc is :
(A) 658°C (B) 420°C
(C) 237°C (D) 962°C
6. The specific gravity of lead is :
(A) 2.82 (B) 8.2
(C) 7.5 (D) 11.36
7. The hot rolled steel flats are designated by :
(A) Width (mm) and Thickness (mm) (B) Length (mm) and Width (mm)
(C) Width (mm) (D) Thickness (mm)
8. The Indian standard steel plates are designated by :
(A) Length (mm) × Width (mm)
(B) Thickness (mm)
(C) Length (mm) × Width (mm) × Thickness (mm)
(D) Width (mm) × Thickness (mm)

A

3

[P.T.O.]

9. The steel square bars are designated by :
- (A) Length (mm) (B) Width across corner
(C) Length (mm) and Width across corner (D) Symbol and Side Width (mm)
10. The hexagon and octagon steel rods are designated by :
- (A) Side Width (mm) (B) Symbol and Width across flat
(C) Width across corner (D) Symbol and Width across corner
11. The colour of Hot rolled black iron sheet is :
- (A) Bright Yellow (B) Bluish White
(C) Bluish Black (D) Reddish Brown
12. The colour of Cold rolled black iron sheet is :
- (A) Plain Silver Whitish (B) Reddish Brown
(C) Bluish Grey (D) Yellowish Brown
13. Reading accuracy of the steel rule is :
- (A) 0.1 mm (B) 0.5 mm
(C) 0.05 mm (D) 0.01 mm
14. Tinman's "L" square is used to :
- (A) Check perpendicularity (B) Scribe large circles
(C) Planishing the work piece (D) Deburring the edges
15. Odd leg caliper is used for :
- (A) Marking lines parallel to the inside and outside edges
(B) Measuring inside diameters
(C) Measuring outside diameters
(D) All of the above
16. From the following which one is used for measuring thickness of sheet metal and wire diameter :
- (A) Radius gauge (B) Feeler gauge
(C) Standard wire gauge (D) Screw pitch gauge
17. Vernier caliper is used to measure upto an accuracy of :
- (A) 0.2 mm (B) 0.002 mm
(C) 0.01 mm (D) 0.02 mm

18. For drawing clear lines on sheet metals, working point of scriber is ground at an angle of :
- (A) 10° to 20° (B) 20° to 30°
(C) 30° to 40° (D) 20° to 50°
19. "L" square is specified by :
- (A) Length of the blade (B) Length of the tongue
(C) Both (A) and (B) (D) None of the above
20. Least count of vernier bevel protractor is :
- (A) 5° (B) 5'
(C) 10° (D) 10'
21. _____ is used to check squareness and flatness of a workpiece.
- (A) Try square (B) Straight edge
(C) Steel rule (D) Vernier height gauge
22. From the following which one is used for scribing arcs and circles and stepping off distances?
- (A) Caliper (B) Divider
(C) Scriber (D) Punch
23. Use of centre punch is :
- (A) Good seating for starting the drill
(B) Light punch marks for dividers and trammels
(C) Punching small holes
(D) None of the above
24. In metric micrometer, pitch of the spindle thread is _____ mm.
- (A) 0.05 mm (B) 0.001 mm
(C) 0.01 mm (D) 0.5 mm
25. Cutting angle of snips is :
- (A) 45° (B) 60°
(C) 87° (D) 90°
26. Which shears is used for cutting eyeholes in sheet metal?
- (A) Pipe shears (B) Scotch shears
(C) Block shears (D) Rohdes shears

27. Which materials is used to make Hacksaw blade?
- (A) Stainless steel (B) Low carbon steel
(C) Medium carbon steel (D) High speed steel
28. What is an operation of removing excess metal layer by layer with the help of chisel and hammer?
- (A) Filing (B) Hacksawing
(C) Chipping (D) Shearing
29. Which file is used for filing narrow grooves and angles above 10°?
- (A) Knife edge file (B) Triangular file
(C) Square file (D) Flat file
30. Which punch is used for punching holes upto 12 mm dia in edges of thin sheet metal?
- (A) Centre punch (B) Tinner's hand punch
(C) Prick punch (D) Iron hand punch
31. Which part of the drill measured for its diameter?
- (A) Lip (B) Tang
(C) Flute (D) Margin
32. Which is used to align and drive the hand tap correctly into the hole to be threaded?
- (A) Plier (B) Tongs
(C) Tap wrench (D) Pipe wrench
33. The weight of an engineer's hammer, normally used for marking purpose is :
- (A) 125 g (B) 250 g
(C) 450 g (D) 750 g
34. What is the name of hammer that is like a creasing hammer, but its peen ends are blended?
- (A) Setting hammer (B) Bullet hammer
(C) Planishing hammer (D) Stretching hammer
35. Which stakes has two arms and its both ends, one is usually cranked downwards and square holes?
- (A) Hatchet stake (B) Beak iron stake
(C) Tinman's horse (D) Funnel stake
36. Which type of vice consists of handle and small collect chuck at one end?
- (A) Hand vice (B) Pin vice
(C) Pipe vice (D) Toolmaker's vice

37. The width of Groover is 6 mm and sheet thickness is 0.5 mm. What is the width of fold in locked grooved seam?
- (A) 5.5 mm (B) 5 mm
(C) 4.5 mm (D) 4 mm
38. What is the width of the capping strip of double grooved seam?
- (A) width of folded edge + thickness of sheet
(B) 2 times width of folded edge + 2 times sheet thickness
(C) 2 times width of folded edge + 3 times sheet thickness
(D) 2 times width of folded edge + 4 times sheet thickness
39. Which seam is use when joining a collar to a flange without using solder, screws or rivets?
- (A) Plain dovetailed seam (B) Patt's burgh lock seam
(C) Snap lock seam (D) Paned down seam
40. What is one of the folded joint and is used in light articles such as toys?
- (A) Butt joint (B) Lap joint
(C) Sunk lap joint (D) Stake joint
41. Other name of Pitt's burgh seam is
- (A) Locked grooved seam (B) Paned down seam
(C) Hammer lock seam (D) Knocked up seam
42. How many types of wiring process followed in sheet metal work?
- (A) 2 (B) 3
(C) 4 (D) 5
43. What is called if sheet metal edge is folded to 180°?
- (A) Wiring (B) Single hem
(C) Double hem (D) Turning
44. Curling is a :
- (A) Joining process (B) Finishing process
(C) Body stiffening process (D) Edge stiffening process
45. In drawing operation, when using the formula $\sqrt{d^2 + 4dh}$, $d =$
- (A) Diameter of blank (B) Depth of product
(C) Distance between die and punch (D) Diameter of product

46. In Triangulation development method, the true lengths are related to :
- (A) Slant length (B) Vertical height
(C) Base length (D) Base width
47. In spinning operation, which is used to form the neck of a vessel after initial drawing :
- (A) Segmental die (B) Core die
(C) Inside drawing die (D) Outside drawing die
48. The average overall length of the hand forming tool in spinning is :
- (A) 750 - 850 mm (B) 700 - 800 mm
(C) 800 - 850 mm (D) 800 - 900 mm
49. In blanking operation, the blank is governed by the size of :
- (A) Punch (B) Pressure pad
(C) Die (D) Punch and Die
50. In press forming operation, the octagonal shaped hole is produced by :
- (A) Embossing (B) Piercing
(C) Punching (D) Notching
51. In which operation does the spring back effect occur?
- (A) Disc forming operation (B) Angle forming operation
(C) Lancing operation (D) Slitting operation
52. The pressure pad avoids the formation of wrinkle formed while :
- (A) Drawing (B) Curling
(C) Bending (D) Lancing
53. Which hammer is used to remove the dents from deep hollow portions?
- (A) Bullet hammer (B) Stretching hammer
(C) Hollowing hammer (D) Peening hammer
54. Which process is used to make 50 numbers circular holes in a metal sheet at 20 mm spacing length wise and cross wise?
- (A) Plunging (B) Perforating
(C) Cupping (D) Punching
55. Which development method is used for making segmental quarter bend?
- (A) Parallel line method (B) Triangulation method
(C) Geometrical construction method (D) Radial line method

56. How to calculate the arc length in geometrical construction method?
- (A) $2\pi \times \theta^\circ / 360$ (B) $2r \times \theta^\circ / 360$
 (C) $2\pi r \times \theta^\circ$ (D) $2\pi r \times \theta^\circ / 360$
57. In wire notching work, the notch is started is :
- (A) 3.5 times ϕ of wire (B) 3 times ϕ of wire
 (C) 3.25 times ϕ of wire (D) 3.75 times ϕ of wire
58. Straight line cutting along the length is called :
- (A) Slitting (B) Shearing
 (C) Straight Notching (D) Longitudinal cutting
59. The main advantage of nibbling over shearing is that there is :
- (A) Increase the accuracy of work (B) Maintain good appearance
 (C) Less distortion of work (D) Increase the speed of work
60. In medium and heavy plate bending process, the angle of male punch is :
- (A) 90° (B) 30°
 (C) 45° (D) 60°
61. The face is square in shape and peen is round and polished. This type of hammer is known as :
- (A) Ball peen hammer (B) Peening hammer
 (C) Planishing hammer (D) Setting hammer
62. Which is used for cutting along straight line and convex cutting of sheet metals?
- (A) Double cutting shear (B) Gilbow shear
 (C) Hand lever shear (D) Rohdes shear
63. Which development method is used for making transformer type connectors?
- (A) Parallel line method (B) Radial line method
 (C) Triangulation method (D) Approximate method
64. Which development method is used for making concentric reducer connectors?
- (A) Approximate method (B) Radial line method
 (C) Geometrical construction (D) None of the above
65. What is the cutting speed of high speed steel drill, for drilling high tensile steel?
- (A) 35 - 50 m/min. (B) 5 - 8 m/min.
 (C) 20 - 30 m/min. (D) 25 - 40 m/min.

66. What is the cutting radius of light power shear type nibbler?
- (A) 25 mm (B) 30 mm
(C) 50 mm (D) 10 mm
67. In punch type nibbler the maximum linear cutting speed is approximately :
- (A) 1.8 m/min. (B) 12.4 m/min.
(C) 3.2 m/min. (D) 6.4 m/min.
68. Which one is not a part of bar folder?
- (A) Folding blade (B) Excentric shaft
(C) Clamping beam (D) Beam operating cam
69. Bar folder is specified by :
- (i) Maximum length of bed
(ii) Thickness of the work piece that can be bend
(iii) Smallest width of bend
(iv) Minimum inside corner radius
- (A) Only (i) and (ii) (B) (i), (ii) and (iii)
(C) (i), (ii), (iii) and (iv) (D) (i), (ii) and (iv)
70. Channel die used in press brake are only successful upto :
- (A) 12.6 mm (B) 3.2 mm
(C) 2.64 mm (D) 6.35 mm
71. Which one of the statements is/are correct about pyramid type roll forming machine?
- (i) Heavy gauge sheet and plate are formed
(ii) The rollers are placed like a pyramid
(iii) Lower roller adjusted to up and down to make bent radius
(iv) The machines are generally driven by hand
- (A) Only (i) and (iii) (B) Only (ii) and (iv)
(C) Only (i) and (ii) (D) Only (ii) and (iii)
72. If the seam is to be made from inside of the object, what is the arrangement of horn and type of roller used in seam closing machine?
- (A) Grooved surface of horn on top and flat roller is used
(B) Grooved surface of horn on top and grooved roller is used
(C) Flat surface of horn on top and flat roller is used
(D) Flat surface of horn on top and grooved roller is used

73. What is the centre to back dimension of a deep back fly press?
- (A) Maximum about 110 mm (B) Maximum about 160 mm
(C) Maximum about 250 mm (D) Maximum about 310 mm
74. Which of the statement is/are correct about blanking?
- (i) Size of blank is governed by size of punch
(ii) Metal cut out is the required component
(iii) Clearance is left on the die
- (A) Only (i) and (ii) (B) Only (ii)
(C) Only (iii) (D) Only (ii) and (iii)
75. Which of the following buffing material is used to furnish or producing a high colour or luster?
- (A) Pumice (B) Tripoli
(C) Whiting (D) Rouge
76. What is the cause of spray painting defect, having heavy coat with ripples?
- (A) Too much air pressure
(B) Not enough overlap
(C) Gun is held too far from the panel
(D) Gun is held too close to the panel
77. Which is the **incorrect** statement about riveting of two plates together?
- (A) Caulking is done on the edges of the plates as well as that of the rivet heads
(B) Caulking is done on the edges of the plates
(C) Fullering is done on the edges of the plates as well as that of the rivet heads
(D) Fullering is done on the edges of the plates
78. During arc welding when the thickness of the metal to be welded increases :
- (A) voltage remaining the same, current should increase
(B) voltage should decrease, current should increase
(C) current should decrease, voltage should increase
(D) voltage should increase, current remaining the same
79. What are the features of A.C. welding over D.C. welding?
- (i) The cost of equipment is higher
(ii) It is less safe as the no-load voltage is high
(iii) The efficiency is higher due to the absence of rotating parts
- (A) (i) and (iii) (B) (i), (ii) and (iii)
(C) (iii) only (D) (ii) and (iii)

80. In oxyacetylene gas welding temperature produced is?
- (A) 3,200°C (B) 1,980°C
(C) 2,253°C (D) 2,750°C
81. Aluminium and Copper can be joined by brazing process when _____ alloy is used.
- (A) Copper-zinc (B) Aluminium-silicon
(C) Copper-tellurium (D) Aluminium-zinc
82. _____ solders are used for glass-to-glass and glass-to-metal soldering.
- (A) Cadmium-zinc (B) Lead-silver
(C) Tin-zinc (D) Indium-tin
83. Which of the following method is not used for applying pressure in spot welding process?
- (A) Hand lever (B) Hydraulic cylinder
(C) Foot lever (D) Air pressure
84. In submerged arc welding, the arc is struck between
- (A) Tungsten electrodes and work piece
(B) Non-consumable electrode and work piece
(C) Consumable bare electrode and work piece
(D) Consumable coated electrode and work piece
85. Two plates, each of 6 mm thickness, are to be butt-welded. Consider the following processes and select the correct sequence in decreasing order of size the heat affected zone.
- (i) Arc welding
(ii) MIG welding
(iii) Laser beam welding
(iv) Submerged arc welding
- (A) (ii)-(i)-(iii)-(iv) (B) (iv)-(ii)-(i)-(iii)
(C) (iii)-(ii)-(iv)-(i) (D) (i)-(iv)-(ii)-(iii)
86. In tungsten inert gas welding (GTAW) which polarity is used for welding Aluminium?
- (A) Direct Current Reverse Polarity (DCRP)
(B) Direct Current Straight Polarity (DCSP)
(C) Alternating Current
(D) None of the above

87. Which of the following is not a part of water jet machining system?
- (A) Transducer (B) Accumulator
(C) Jet cutting nozzle (D) Hydraulic pump
88. Which of the following statements are **TRUE** for Plasma Arc Cutting (PAC) process?
- (i) Sources of heat generation in PAC is recombination of ions and electrons into atoms and/or recombination of atoms into molecules.
- (ii) PAC can be used to cut any material having high thermal conductivity, high heat capacity and good oxidation resistance.
- (iii) PAC cannot be used to cut the materials which cannot be cut by ordinary methods like oxy-fuel cutting.
- (iv) Very high temperature about 20,000°C-30,000°C is reached during PAC.
- (A) (i) and (ii) only
(B) (i), (ii) and (iii) only
(C) (i), (ii) and (iv) only
(D) (ii), (iii) and (iv) only
89. In which surface preparation method the solvent white spirit, carbon tetra chloride and trichloroethylene is used?
- (A) pickling (B) degreasing
(C) blast cleaning (D) flame descaling
90. What is the type of surface protection by coating lubricating oil and grease?
- (A) temporary treatment (B) semi temporary treatment
(C) semi-permanent treatment (D) permanent treatment
91. A Bent snip is used for
- (A) Bending the sheet
(B) Cutting the sheet along the curved line
(C) Removing the burr
(D) Making holes on the sheet
92. A process in which the edge of the sheet is folded over itself to increases the stiffness of the part, is called
- (A) Peen forming (B) Hemming
(C) Dimpling (D) Spinning

93. Which screw thread of 55° included angle and depth of thread is $0.6403 p$ is used in general engineering fasteners?
- (A) BA thread (B) BIS thread
(C) BSP thread (D) BSW thread
94. A screw driver is specified by its
- (A) Width of blade
(B) Length of blade
(C) Thickness and length of the blade
(D) Width of tip and length of the blade
95. Which type of hammer is used in repairing vehicle body to be heated and reshaped?
- (A) Square checked face hammer
(B) Dome faced circular hammer
(C) Top circular and bottom square faced hammer
(D) Cylindrical top pane and round flat faced hammer
96. Device which controls temperature in window AC is :
- (A) Thermostat (B) OLP
(C) Relay (D) Selector switch
97. Connecting rods are generally manufactured by
- (A) milling (B) forging
(C) boring (D) extrusion
98. Insulation material used in electric iron is :
- (A) rubber (B) plastic
(C) mica (D) silica
99. An electric locomotive gets its power from :
- (A) Main transformer (B) Overhead pantograph
(C) Motor blower (D) Main rectifier
100. The systematic approach for maintenance is :
- (A) Problem - Measure - Diagnosis - Rectification
(B) Problem - Diagnosis - Cause - Rectification
(C) Problem - Diagnosis - Measure - Rectification
(D) Problem - Cause - Diagnosis - Rectification
-

SPACE FOR ROUGH WORK

SPACE FOR ROUGH WORK