

112/2022

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. Which marking media is used for rough forging and casting with oxidized surfaces?
(A) Copper sulphate (B) Prussian Blue
(C) Cellulose lacquer (D) White wash
2. Engineers steel rule is graduated in 10 mm, 5 mm, 1 mm, 0.5 mm the reading accuracy of the steel rule is :
(A) 0.01 mm (B) 0.05 mm
(C) 0.5 mm (D) 1 mm
3. Scribes are made of :
(A) High speed steel (B) High carbon steel
(C) Mild steel (D) Tungsten carbide
4. Which one of the following most used datum surface in workshop?
(A) Surface plate (B) Surface gauge
(C) Surface steel (D) Angle plate
5. Accuracy of outside caliper is :
(A) 0.01 mm (B) 0.02 mm
(C) 0.05 mm (D) 0.5 mm
6. Point angle of dot punch for marking witness mark :
(A) 30 – degree (B) 60 – degree
(C) 90 – degree (D) 45 – degree
7. In a universal surface gauge where is the spindle is attached on :
(A) Base (B) Body
(C) Rocker arm (D) Snug
8. Surface plate are made of :
(A) Good quality cast-iron (B) High quality steel
(C) Tool steel (D) High carbon

9. What is the angle of V groove in V BLOCK?
(A) 45-degree (B) 90-degree
(C) 60-degree (D) 120-degree
10. Which part of the combination set is used to mark and check 90 degree and 45-degree angles?
(A) Centre head (B) Rule
(C) Protractor head (D) Square head
11. Generally which material is used to make hammer head?
(A) High speed steel (B) Drop forged carbon steel
(C) High carbon steel (D) Mild steel
12. Where the weight of the hammer is shown on?
(A) Face (B) Pein
(C) Cheek (D) Eye hole
13. Which one of the following is NOT correct about try square?
(A) To used measure flatness (B) To check the squareness
(C) To set work pieces at right angles (D) To use mark 90 degree
14. Which material is used for making leg vice?
(A) Mild steel (B) Cast Iron
(C) Cast steel (D) Gray- cast-iron
15. Jenny caliper is used to :
(A) To locate the divider seat (B) For finding the centre of round bar
(C) Scribing large circles (D) For finding the angles
16. The base unit of Length in SI system is :
(A) Centimetre (B) Millimetre
(C) Meter (D) Deci meter
17. Which one of the following direct angular measuring instruments?
(A) Jenny caliper (B) Bevel gauge
(C) Micro meter (D) Bevel protractor

18. One inch equal to _____ mm.
- (A) 25.4 mm (B) 2.45 mm
(C) 25.34 mm (D) 2.54 mm
19. Accuracy of Bevel protractor :
- (A) 1- minute (B) 5-degree
(C) 5-minute (D) 1-degree
20. Straight edges are used to check :
- (A) Perpendicularity (B) Flatness
(C) squareness (D) Straight length of measure
21. Select the correct statement about single cut file :
- (i) The teeth are at an angle of 60 degree
(ii) For use filing soft metals
(iii) A single cut file has rows of teeth cut in one direction across its face
- (A) (i) and (ii) only (B) (i) and (iii)
(C) (ii) and (iii) only (D) All of the above (i, ii and iii)
22. Identify the correct statements from the following about parts of file :
- (i) Tang is a narrow and thin part of file which fit into the file
(ii) Ferrule is the part fitted to the tang for holding the file
(iii) Heel is the portion of the broad part without near the tang
- (A) (i) and (ii) only (B) (i) and (iii)
(C) (ii) and (iii) only (D) All of the above (i, ii and iii)
23. In a double cut file, the first row of file is called :
- (A) Up cut (B) Middle cut
(C) Over cut (D) Cross cut
24. Identify the wrong statement about the hand file :
- (i) Similar to the flat file
(ii) The edges along the width of these file parallel up to two- thirds of the length and then taper
(iii) The faces are double cut
- (A) (i) Only (B) (ii) Only
(C) (i) and (ii) Only (D) (i) and (iii) Only

25. Which letter is denoted shellac bond on a grinding wheel?
- (A) Letter –B (B) Letter -R
(C) Letter –S (D) Letter -E
26. Which file is used for finishing automobile bodies after bending?
- (A) Crossing file (B) Barrette file
(C) Tinkers file (D) Rotary file
27. The length of the hacksaw blade is measured from :
- (A) One end of the toothed portion to the other end
(B) End of one hole to the end of the other pin hole
(C) End to end of blade
(D) Centre of one pin hole to the centre of another pin hole
28. Cape chisel is also known as :
- (A) Cross cut chisel (B) Flat chisel
(C) Diamond point chisel (D) Half round chisel
29. Which tap is used to finish the threads of a blind hole to the correct depth?
- (A) First tap (B) Second tap
(C) Intermediate tap (D) Bottoming tap
30. The point angle of twist drill for general purpose is :
- (A) 180 degree (B) 118 degree
(C) 90 degree (D) 136 degree
31. What is the use of ratchet stop in micrometer?
- (A) Increase motion of spindle
(B) Maintain uniform measuring pressure
(C) Provide measuring surface
(D) To stop the spindle
32. The least count of vernier calliper is equal to :
- (A) Value of 1 M. S. D + Value of 1 V. S. D
(B) Value of 2 M. S. D + Value of 1 V. S. D
(C) Value of 1 M. S. D – Value of 1 V. S. D
(D) Value of 1 V. S. D + Value of 1 M. S. D

33. The size of the vernier height gauge is specified by :
- (A) Height of the base (B) Width of the beam
(C) Length of the beam (D) Size of the scriber
34. What is the term of the algebraic difference between a size, to its corresponding basic size?
- (A) Deviation (B) Upper deviation
(C) Lower deviation (D) Actual deviation
35. In vernier bevel protractor, the value of each division of the vernier scale is :
- (A) 1 Degree 35 Minutes (B) 1 Degree 50 minutes
(C) 1 Degree 45 Minutes (D) 1 Degree 55 minutes
36. A plug gauge which has its GO- and NO-GO sizes on the same end is known as :
- (A) Single ended plug gauge (B) Two-way plug gauge
(C) Double end plug gauge (D) Progressive plug gauge
37. Gap between mating parts is checked by :
- (A) Dial gauge (B) Plug gauge
(C) Feeler gauge (D) Snap gauge
38. Bushes are generally provided in a jig to :
- (A) Locate the job (B) Hold the job
(C) Guide the tool (D) All of the above
39. In a countersinking, countersink head screws and deburring angle is :
- (A) 90 Degree (B) 80 Degree
(C) 75 Degree (D) 120 Degree
40. In a grinding wheel restore the correct cutting action of the wheel and remove clogs on the surface of the wheel is called :
- (A) Truing (B) Dressing
(C) Loading (D) Glazing
41. It is a fit, which may sometimes provide clearance and sometime interference. Which class of fit this :
- (A) Transition fit (B) Clearance fit
(C) Push fit (D) Interference fit

42. In a screw thread the surface joining the crest and the root is called :
- (A) Root (B) Crest
(C) Flank (D) Depth
43. Knuckle thread is the modified form of :
- (A) Square thread (B) Trapezoidal thread
(C) Vee thread (D) Saw tooth thread
44. Which washers can be used for locking the nuts which are located near an edge or corner?
- (A) Plate washer (B) Spring washer
(C) Lock washer (D) Tab washer
45. Identify the correct statements from the following about Woodruff key :
- (i) it is a semi-circular key
(ii) this is Particularly useful on tapered fitting on shaft
(iii) this is parallel key with rounded ends
- (A) (i) and (ii) only (B) (i) and (iii)
(C) (ii) and (iii) only (D) All of the above (i, ii, and iii)
46. Which tool is used to in a riveting operation form the final shape of the rivet?
- (A) Rivet set (B) Dolly
(C) Rivet snap (D) Drift
47. The head of the soldering iron is made of :
- (A) Brass (B) Forged copper
(C) Lead (D) Tin
48. The following Which type belt fastener is used on heavy duty machines :
- (A) Jackson type (B) Wire type
(C) Crescent type (D) Lagrelle type
49. Which gear is called herringbone gear?
- (A) Spur gear (B) Mitre gear
(C) Single helical gear (D) Double helical gear

50. In brazing filler rod is made of :
- (A) Tin (B) Brass
(C) Lead (D) Iron
51. Name the cast iron which has the ability to minimize tool chatter in machine tools?
- (A) Grey cast iron (B) White cast iron
(C) Nodular cast iron (D) Malleable cast iron
52. Name the furnace used in the smelting of iron ore :
- (A) Blast furnace (B) Cupola furnace
(C) Open hearth furnace (D) Electric furnace
53. What is the purpose of groover?
- (A) Releasing of seam
(B) Compress the seam
(C) Closing and locking of seam
(D) Stress relieving during seaming operation
54. Which is the main part of the forge furnace where metal is heated?
- (A) Hearth (B) Blower
(C) Quenching tank (D) Chimney
55. Which quenching media is used for special alloy steels?
- (A) Brine solution (B) Water
(C) Oil (D) Cold Air
56. What is the material used in the manufacture of swage block?
- (A) Mild steel (B) Malleable cast iron
(C) High carbon steel (D) Tool steel
57. Which rivet is used in heavy structural work?
- (A) Pan head rivet (B) Snap head rivet
(C) Counter sunk rivet (D) Conical head rivet
58. What is the temperature that change of structure to austenite starts at 723° in heat treatment process?
- (A) Melting temperature (B) Upper critical temperature
(C) Lower critical temperature (D) Critical temperature

59. Which ore is used to extract zinc?
- (A) Bauxite (B) Calamine
(C) Galena (D) Cassiterite
60. Which method of surface hardening is done in a heated salt bath?
- (A) Flame hardening (B) Gas carburizing
(C) Pack Carburizing (D) Liquid Carburizing
61. An operation of solid state welding process which is used to join two metal pieces by heating them to a temperature and hammered together to join them?
- (A) Arc welding (B) Forge welding
(C) Gas welding (D) Upsetting
62. What is the uses of fullers?
- (A) For necking and grooving
(B) For hollowing
(C) For drying down
(D) For forming the head of rivets and bolts
63. Why lime stone serves as flux added to the ore in the blast furnace?
- (A) To form molten slag (B) To supply the oxygen
(C) To burn the carbon in coke (D) To increase the melting point of ore
64. Which method of heat treatment is used to improve machinability and ductility in the job?
- (A) Tempering (B) Hardening
(C) Annealing (D) Normalizing
65. What is the OCV for welding in step-down transformer which reduces the main supply voltage (220 or 440 volts)?
- (A) 40 and 100 volt (B) 50 and 100 volt
(C) 30 and 20 volt (D) 20 and 25 volt
66. When bottom swage and top fuller are used together then which of the following operation is done?
- (A) Drawing out (B) Hollowing
(C) Jumping (D) Bending

67. Which structure of steel contain 0% carbon?
(A) Ferrite (B) Pearlite
(C) Austenite (D) Cementite
68. What is the name of tool is used to support the snap head rivet?
(A) Rivet snap (B) Drift
(C) Rivet set (D) Dolly
69. What is the operation upsetting?
(A) Making a hole in the component
(B) Enlarging the length there by reducing the thickness
(C) Process by which the cross sectional area of a metal piece is increased with a decrease in length
(D) Operation of extending the metal in all directions
70. Which heat treatment process increases the wear resistance of steel?
(A) Annealing (B) Tempering
(C) Hardening (D) Normalising
71. Find out the spindle speed for turning dia 40 mm cast iron rod, if the cutting speed is 15 m/min?
(A) 119.3 rpm (B) 100.3 rpm
(C) 219.3 rpm (D) 319.3 rpm
72. Which is the operation of covering area of the metal with molten solder?
(A) Pickling (B) Swaging
(C) Seaming (D) Tinning
73. What is the process if hot steel is cooled slowly the old structure is retained and it will have fine grains that makes it easily machined?
(A) Annealing (B) Hardening
(C) Tempering (D) Normalizing
74. Which is the part of anvil used for jumping and upsetting of metal?
(A) Beak (B) Face
(C) Upsetting block (D) Round hole

75. What is the appropriate heating temperature for forging of low carbon steel?
(A) 900°C (B) 1100°C
(C) 1300°C (D) 1600°C
76. Which tool used in sheet metal work to scribe a circle or arc with a large diameter?
(A) Spring compass (B) Trammel
(C) Wing compass (D) Ordinary compass
77. What is the heat treatment process to remove extreme brittleness and induce toughness and shock resistance in steel?
(A) Tempering (B) Annealing
(C) Normalising (D) Hardening
78. Why agricultural equipment is made up of wrought iron?
(A) Low cost (B) Heavy weight
(C) Wear resistant (D) Corrosion resistant
79. What is the merit of three jaw chuck in lathe machine?
(A) Work can be set with ease
(B) Run out cannot be corrected
(C) Only round and hexagonal components can be held
(D) No bite marks on job
80. What type of cutting tool used in mass production?
(A) Solid tools (B) Brazed tools
(C) Throw away type tools (D) Tool Bits
81. Which is the vertical distance from crest to the root?
(A) Lead (B) Flank
(C) Pitch (D) Depth
82. What type of mallet used for hollowing panel beating?
(A) Brass mallets (B) Rubber mallets
(C) Wooden mallet (D) Bossing mallets
83. Which part is mainly supporting the lengthy job in lathe machine?
(A) Face plate (B) Steady rest
(C) Dog carrier (D) Tail Stock

84. Which tool materials are manufactured by powder metallurgy technique?
(A) Carbides (B) High speed steel
(C) High carbon steel (D) Diamond
85. What type power transmission is transmitted by spur gear?
(A) Parallel transmission (B) Angular transmission
(C) Intersecting transmission (D) 90° transmission
86. What is the purpose of back gear unit in lathe machine?
(A) Reduce the spindle speed (B) Increase the spindle speed
(C) Quick change spindle speed (D) Quick change Feed
87. What is the defect caused if the tool is not set to the correct centre height while facing?
(A) Convex face (B) Concave face
(C) Pip left in the centre (D) None of these
88. What is the name of the operation carried out in turning to remove burr and sharpness from the edge of component?
(A) Grooving (B) Chamfering
(C) Step turning (D) Facing
89. Name the tool which is used to bring the plates closely together after inserting the rivet in the hole :
(A) Drift (B) Dolly
(C) Rivet set (D) Caulking tool
90. Name the zinc coated iron :
(A) Black iron (B) Tinned iron
(C) Stainless steel (D) Galvanised iron
91. Which sheet metal is highly resistant to corrosion and abrasion?
(A) Copper (B) Black iron
(C) Aluminium (D) Galvanised iron
92. Out of the listed which internal defect in welding is invisible to naked eye?
(A) Spatter (B) Porosity
(C) Undercut (D) Stray arc

93. What is the storing capacity of oxygen cylinder?
(A) 7 m³ (B) 10 m³
(C) 14 m³ (D) 15 m³
94. Which process blow out the cylinder valve socket before connecting the regulator?
(A) Cracking (B) Back fire
(C) Flash back (D) Pressure testing
95. Which flux used for soldering steel?
(A) Zinc chloride (B) Resin
(C) Ammonium chloride (D) Tallow
96. Which factor determine the current setting during welding?
(A) Types of joint (B) Position of weld
(C) Length of electrode (D) Diameter of electrode
97. What is the colour painted on the acetylene gas cylinders?
(A) Black (B) Green
(C) Blue (D) Maroon
98. Which arc welding machine provides better heat distribution in the electrode and job?
(A) Rectifier set (B) Motor generator set
(C) Welding transformer (D) Engine generator set
99. What is the disadvantage of AC welding transformer?
(A) More initial cost
(B) Not free from arc blow
(C) More maintenance cost
(D) Not suitable for welding non ferrous metal
100. What will cause if the nozzle touches the molten pool?
(A) Spark (B) Smoke
(C) Back fire (D) Flash back

SPACE FOR ROUGH WORK

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