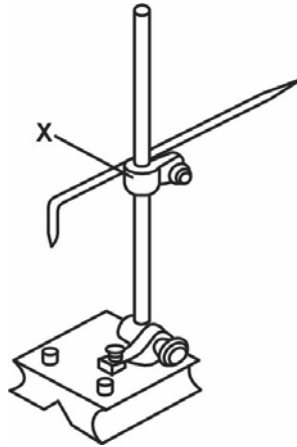


027/2025

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. Web chisels are used for :
 - (A) Squaring the materials at corners
 - (B) Cutting keyways and grooves
 - (C) Separating metals after chain drilling
 - (D) Chip off excess metals after welding
2. If the clearance angle is too large , chisel will :
 - (A) Slip from the workpiece
 - (B) Dig into the workpiece
 - (C) Break
 - (D) Cannot penetrate into the work
3. Rasp cut file are available only in :
 - (A) Round shape
 - (B) Rectangular shape
 - (C) Half round shape
 - (D) Square shape
4. What is the name of the part marked as 'X'?



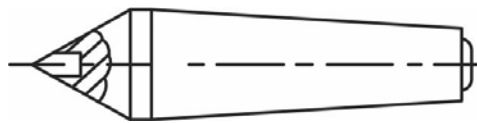
- (A) Spindle
 - (B) Scriber
 - (C) Clamping nut
 - (D) Snug
5. Which type of vice is used for marking of small jobs on the surface plate?
 - (A) Tool makers vice
 - (B) Pin vice
 - (C) Quick release vice
 - (D) Bench vice
6. The method used to remove a broken tap from precision component without damaging it :
 - (A) Using tap extractor
 - (B) By anealing and drilling
 - (C) By using Tapered square drift
 - (D) Using spark erosion

A

3

[P.T.O.]

7. The cutting edges of unequal length of drill causes :
- (A) Drill to be break easily (B) Insufficient clearance angle
(C) Over sized drill hole (D) Under sized drill hole
8. Recommended cutting fluids used for drilling cast iron :
- (A) Kerosene (B) Dry or compressed air
(C) Water (D) None of these
9. Calculate the r.p.m. for a high speed steel drill ϕ 22 mm to cut mild steel. The cutting speed for MS is taken as 25 m/min :
- (A) 382 (B) 280
(C) 175 (D) 362
10. The size of the drill is determined and governed by :
- (A) Diameter over the lands (B) Diameter over the shank
(C) Diameter of flank (D) Thickness of web
11. What will happen if the carriage is not being locked while facing?
- (A) Concave face (B) Convex face
(C) Pip at the centre (D) None of the these
12. What is the name of the centre shown in fig?



- (A) Inserted type centre (B) Half centre
(C) Self driving centre (D) Tipped centre
13. Which part of the lathe gives angular movement to the tool?
- (A) Cross slide (B) Carriage
(C) Compound slide (D) Tailstock
14. Which part of the lathe contains mechanism for the moving and controlling of the lathe carriage ?
- (A) Top slide (B) The apron
(C) Cross slide (D) Compound slide
15. The crown wheel of three jaw chuck is made of :
- (A) High carbon steel (B) Cast iron
(C) Alloy steel (D) Brass
16. Which is the example of ferrous tool material?
- (A) High speed steel (B) Ceramics
(C) Stellite (D) Diamond

17. A tumbler gear mechanism consists of :
 (A) 2 gears (B) 4 gears
 (C) 1 gear (D) 3 gears
18. The tool material which has very low heat conductivity and used without coolant is :
 (A) Stellite (B) Ceramics
 (C) Cemented carbides (D) High carbon steel
19. Calculate the cutting speed for turning a workpiece of ϕ 30 mm rotating at 450 RPM :
 (A) 42 m/min (B) 45 m/min
 (C) 35 m/min (D) 25 m/min
20. Which type of thread cut on the screw shaft of an independent chuck?
 (A) Left hand V thread (B) Right hand V thread
 (C) Left hand square thread (D) Left hand acme thread
21. Determine the least count when one main scale division is equal to 1 mm and one vernier division equal to 9/10 :
 (A) 0.01 mm (B) 0.10 mm
 (C) 1.00 mm (D) 0.001 mm
22. On which part of micrometer the datum line and graduations are marked?
 (A) Thimble (B) Frame
 (C) Barrel (D) Anvil
23. The minimum measurement that can be correctly read with a vernier caliper is called:
 (A) Least count (B) Zero reading
 (C) Main scale reading (D) Zero error
24. The micrometer spindle will have pitch of:
 (A) 0.75 mm (B) 0.25 mm
 (C) 1.00 mm (D) 0.50 mm
25. Ratchet stop in the micrometer helps to:
 (A) Control the pressure (B) Hold the work piece
 (C) Adjust zero error (D) Lock the spindle
26. Formula to determine least count of Vernier caliper (where MSD =Main Scale Division VSD=Vernier Scale Division):
 (A) $1 \text{ MSD} - 1 \text{ VSD}$ (B) $1 \text{ MSD} + 1 \text{ VSD}$
 (C) $1 \text{ MSD} - 2 \text{ VSD}$ (D) $\frac{1 \text{ MSD}}{2 \text{ VSD}}$

27. The accuracy of digital vernier caliper is:
- (A) 0.02 mm (B) 0.001 mm
(C) 0.05 mm (D) 0.01 mm
28. In a micrometer, the zero of the thimble rest below the datum line of the sleeve the error is called as:
- (A) Positive error (B) No zero error
(C) Negative error (D) Zero error
29. What is the least of an outside micrometer having 50 divisions on thimble and pitch of screw in 0.5 mm?
- (A) 0.001 mm (B) 0.05 mm
(C) 0.01 mm (D) 0.02 mm
30. The spindle of an outside metric micrometer has got a fine pitch thread. What is the relationship between the pitch of the thread and the thimble revolution?
- (A) One revolution of thimble = pitch of thread
(B) Two revolution of thimble = pitch of thread
(C) One revolution of thimble = $2 \times$ pitch of thread
(D) One revolution of thimble = $\frac{\text{pitch of thread}}{2}$
31. Difference in measurement between the machined and the un-machined diameter is known as :
- (A) Depth of cut (B) Machining time
(C) $2 \times$ Depth of cut (D) Feed
32. Which type of micrometer used to check the pitch diameter of a screw rod?
- (A) Tube micrometer (B) Flange micrometer
(C) Screw thread micrometer (D) Digital micrometer
33. Which range of cutting speed is set for drilling a mild steel using HSS drill?
- (A) 70 – 100 m/min (B) 20 – 30 m/min
(C) 25 – 40 m/min (D) 35 – 50 m/min
34. Measuring errors which are due to the measuring instrument are known as :
- (A) Gauge and Instrument errors (B) Observation errors
(C) Random errors (D) Systematic errors
35. The rate at which the drill advances into the material for each rotation of the drill is termed as :
- (A) Depth of cut (B) Cutting Speed
(C) Feed (D) RPM

36. Which process is used for enlarging and truing an existing drilled or cored hole with a single point tool?
(A) Boring (B) Punching
(C) Reaming (D) Drilling
37. Chamfering end of hole to 120° is meant for :
(A) Deburring (B) Threading
(C) Riveting (D) Self tapping screw
38. The Number drill is specified :
(A) A – Z (B) 1 – 50
(C) 0 – 80 (D) 1 – 80
39. Which factor decides the point angle of a drill?
(A) Diameter of the drill (B) Material of the drill
(C) Material to be drilled (D) Type of the drilling machine
40. It is a machining operation for producing a flat seat for bolt head, washer or nut at the opening of a drilled hole :
(A) Boring (B) Spot facing
(C) Counter boring (D) Counter sinking
41. What is Knurling?
(A) Cutting operation (B) Grinding Operation
(C) Pinning operation (D) Forming operation
42. Coarse knurling is done by using coarse pitched knurls of
(A) 1.94 mm (B) 1.75 mm
(C) 2.94 mm (D) .75mm
43. Which is the wrong statement about properties of a good cutting fluid?
(A) It should have a high evaporation rate
(B) It should be sufficiently viscous
(C) It should not corrode the workpiece or machine
(D) None of these
44. Which method is employed for the gears and bearings inside all gear drives, the lower parts of the gears actually dipping in the oil?
(A) Gravity feed method (B) Force feed method
(C) Splash method (D) Oil gun method
45. Split bushing mandrel is a example of _____ mandrel.
(A) Gang Mandrel (B) Cone mandrel
(C) Expansion mandrel (D) Plain mandrel

46. Which term denotes the algebraic difference between a size, to its corresponding basic size, It may be positive, negative or zero?
- (A) Upper limit (B) Tolerance
(C) Actual size (D) Deviation
47. Which is the false statement about the advantages of the limit system?
- (A) Interchangeability assured
(B) Necessary to employ highly skilled operators
(C) Not necessary to use conventional measuring instruments
(D) Comparatively lesser time for manufacturing than conventional method
48. In the BIS system of limits and fits, all external features of a component including those which are not cylindrical are designated
- (A) Shaft basis system (B) Hole basis system
(C) Shaft (D) Hole
49. Which of fit is H7-p6?
- (A) Clearance Fit (B) Interference fit
(C) Transition fit (D) Intermediate fit
50. Which accessory has elongated slots and 'T' slots?
- (A) Face plate (B) Driving plate
(C) Angle plate (D) Catch plate
51. Large, flat, irregular shaped workpieces, castings, jigs and fixtures may be firmly clamped to a _____ for various turning operations.
- (A) Catch plate (B) Faceplate
(C) Safety Driving plate (D) Magnetic chuck
52. Where is follower steady can be clamped on?
- (A) Lathe bed (B) Swivel base
(C) Apron (D) Saddle
53. Which Fundamental deviations for fine mechanisms are added later?
- (A) CD, EF and FG (B) CD, EF and FH
(C) AD, EE and FG (D) AD, EF and FH
54. Tool setting on British type tool post requires greater skill in clamping as the adjustment of the _____ is needed to give a grip on the full width of the tool.
- (A) Rack (B) Lever
(C) Nut and screw (D) Heel pin
55. Which Lathe centre has serrated grooves?
- (A) Self driving live centre (B) Swivel v type centre
(C) Insert type centre (D) Tipped type centre

56. Which one of the following is not a method of taper turning?
 (A) Form tool method (B) Conical feed method
 (C) Combining feed method (D) Tail stock set over method
57. A taper 1:20 signifies :
 (A) 1 unit change in length per 20 unit change in diameter
 (B) initial diameter must be 1 unit and final diameter must be 20 unit
 (C) 1 unit diameter change per 20 unit length
 (D) for every 20 unit length there will be a change in diameter of 1 unit
58. Long work pieces with a small angle of taper are usually turned by setting over the tailstock Centre. The angle of taper mentioned here is :
 (A) not exceeding 8° (B) not exceeding 10°
 (C) not exceeding 5° (D) not exceeding 12°
59. If 'D' is the larger diameter of taper and 'd' is the smaller diameter of taper over a length 'l' then in taper turning conicity is designated by :
 (A) $\frac{D-d}{2.l}$ (B) $\frac{D-d}{l}$
 (C) $\frac{D-d/2}{2.l}$ (D) $\frac{D-d}{l}$
60. If 'D' is the larger diameter of taper and 'd' is the smaller diameter of taper over a length 'l' then by using taper turning attachment the angle of taper ' α ' can be found out by the relation :
 (A) $\tan \alpha = \frac{D-d}{l}$ (B) $\tan \alpha = \frac{D-d}{2.l}$
 (C) $\tan \alpha = \frac{D-2.d}{l}$ (D) $\tan \alpha = \frac{D-d/2}{l}$
61. Let larger diameter 'D' = 90 mm and smaller diameter 'd' = 80 mm, and the conicity or the amount of taper is 1:20, then the length of taper is :
 (A) 200 mm (B) 100 mm
 (C) 170 mm (D) 10 mm
62. Morse tapers are available in _____ sizes.
 (A) 6 (B) 7
 (C) 8 (D) 5
63. In British system which one of the following is not a taper system?
 (A) Whitworth standard taper
 (B) Morse standard taper
 (C) Brown and Sharpe standard taper
 (D) Jarno standard taper

64. Which one of the following is not a Metric size taper?
 (A) 80 (B) 6
 (C) 120 (D) 8
65. In taper turning using form tool, it is essential that the tool cutting edge should be set accurately :
 (A) slightly below not greater than 2 mm below the centre line of the work piece
 (B) slightly above not greater than 2 mm above the centre line of the work piece
 (C) on the center line of the work piece
 (D) slightly inclined on the center line of the work piece to avoid under cutting
66. Which one of the following is not a size of Morse taper?
 (A) 0 (B) 7
 (C) 3 (D) 6
67. For long workpieces with a small angle of taper having larger diameter 'D' and smaller diameter 'd' over a length 'l' and 'L' is the full length of work piece, then tail stock setting over or offset[h] in British system can be determined from the formula.
 (A) $h = \frac{L(D-d)}{2.l}$ (B) $h = \frac{l(D-d)}{2.L}$
 (C) $h = \frac{(D-d)}{2.l}$ (D) None of the above
68. Which one of the following is not an advantage of using taper turning attachment?
 (A) Very steep taper on a long workpiece may be turned
 (B) Accurate taper on large number of workpieces may be turned
 (C) Internal tapers cannot be turned with ease
 (D) The alignment of live and dead centers being not disturbed, both straight and taper turning may be performed on a work piece in one setting without much loss of time
69. In combined feed method of taper turning :
 (A) the tool moves in a diagonal path
 (B) the tool moves parallel to the center line of work piece
 (C) At a time only one type of feed is given
 (D) Longitudinal and cross feeds are done at specific intervals
70. In metric taper sizes the amount of taper or conicity is :
 (A) 1:19 (B) 1:20
 (C) 1:19.180 (D) 1:20.047

92. In ISO designation system for boring bars, first character represents :
(A) Clamping method (B) Clearance angle
(C) Cutting speed (D) Insert shape
93. The tooling system for CNC are designed to :
(A) Eliminate operator error
(B) Maximize productive machine hours
(C) Both (A) and (B)
(D) None of the above
94. In CVD coated tipped tools, CVD stands for :
(A) Chemical Vapour Deposition (B) Coated Vapour Deposition
(C) Chemical Vapour Diamond (D) Chemical Vitrified Diamond
95. The speed at which the cutting edge passes over the material which is expressed in metres per minute is :
(A) Feed (B) Depth of cut
(C) Cutting speed (D) Spindle speed
96. The difference between machined and unmachined surface is called :
(A) Feed (B) Depth of cut
(C) Cutting speed (D) Spindle speed
97. The tool wear increases with :
(A) Increase in Depth of Cut (B) Increase in Feed rate
(C) Decrease in Depth of Cut (D) Both (A) and (B)
98. ATC in CNC machining stands for :
(A) Advanced Tool Code (B) Automatic Tool Changers
(C) Advanced Tool Carrier (D) Automatic Tool Centering
99. The cutting tool lose its original shape with use and passage of time is called :
(A) Tool wear (B) Tool damage
(C) Tool life (D) Form tools
100. As compared to Open loop system, Closed loop system is :
(A) More accurate (B) More expensive
(C) Ineffective (D) Both (A) and (B)

SPACE FOR ROUGH WORK

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