

163/2016

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. The Lathe Centres are provided with standard taper known as :
(A) Brown and sharp taper (B) Morse taper
(C) Seller's taper (D) Brown taper
2. The chuck used for setting up of heavy and irregular shaped work should be :
(A) Four jaw independent chuck (B) Three jaw universal chuck
(C) Magnetic chuck (D) Collet chuck
3. The Chamfaring is an essential operation after :
(A) Boring (B) Rough turning
(C) Knurling (D) Thread cutting
4. Least count of steel rule is :
(A) .25 mm (B) .1 mm
(C) .5 mm (D) .2 mm
5. The heat treatment process for softening hardened steel is :
(A) Carburising (B) Normalising
(C) Annealing (D) Tempering
6. Steel containing 0.8 to 1.5% carbon is known as :
(A) Mild Steel (B) High Carbon Steel
(C) Dead Mild Steel (D) Medium Carbon
7. A lathe with four steps on the cone pulley and with back gears will have :
(A) Four direct speeds (B) Four indirect speeds
(C) Four direct and four indirect speeds (D) Eight indirect speeds
8. Least count of vernier caliper metric is :
(A) 0.02 mm (B) 0.01 mm
(C) 0.00001 mm (D) 0.0004 mm

9. For turning internal tapers, the suitable method is :
- (A) by setting over the tail stock
 - (B) by a form tool
 - (C) by a taper turning attachment method
 - (D) none
10. The percentage of carbon in cast iron varies from :
- (A) 0.1 to 0.5
 - (B) 0.5 to 1
 - (C) 1.7 to 4.5
 - (D) 0.2 to 3
11. The correct order of increasing hot hardness of cutting tool materials :
- (A) Diamond, Carbide, High speed steel
 - (B) Carbide, Diamond, High speed steel
 - (C) High speed, Carbide, Diamond
 - (D) None
12. American national standard thread is :
- (A) 58°
 - (B) 65°
 - (C) 47°
 - (D) 60°
13. A single point thread cutting tool should ideally have :
- (A) Point angle
 - (B) Zero rake angle
 - (C) Positive rake angle
 - (D) Negative rake angle
14. The alloy, mainly used for corrosion resistance in stainless is
- (A) Manganese
 - (B) Silicon
 - (C) Carbon
 - (D) Chromium
15. The heat treatment process used for casting is :
- (A) Normalising
 - (B) Annealing
 - (C) Tempering
 - (D) Carburising
16. The taper on the lathe spindle is :
- (A) 2 to 20
 - (B) 3 to 20
 - (C) 1 in 20
 - (D) 4 in 20

17. Tumbler gears in lathe are used to :
- (A) Cut gears
 - (B) Cut taper
 - (C) Reduce the spindle speed
 - (D) Give desired direction of movement to the lathe carriage
18. In which, Coolant is used for Aluminium turning :
- (A) Dry
 - (B) Kerosene
 - (C) Soda water
 - (D) Lard oil
19. The cutting speed for drilling copper with high speed steel drill varies from :
- (A) 18 to 30 m/min
 - (B) 8 to 15 m/min
 - (C) 30 to 45 m/min
 - (D) 10 to 30 m/min
20. The blade of power saw is made of :
- (A) Cast Iron
 - (B) Aluminium
 - (C) High speed steel
 - (D) High carbon steel
21. British association thread angles is :
- (A) 37°
 - (B) 27°
 - (C) 57°
 - (D) $47\frac{1}{2}^\circ$
22. The material commonly used for machine bodies is :
- (A) Cast Iron
 - (B) Aluminium
 - (C) Brass
 - (D) Mild Steel
23. Acme screw thread angles is :
- (A) 49°
 - (B) 29°
 - (C) 39°
 - (D) 19°
24. Which coolant is used for mild steel for Lapping?
- (A) Kerosene
 - (B) Turpentine
 - (C) Lard oil
 - (D) Dry
25. Which of the following material have maximum malleability?
- (A) Soft steel
 - (B) Copper
 - (C) Cast iron
 - (D) Lead

26. Angle of B.S.W. thread is :
- (A) 50° (B) 53°
(C) 55° (D) 60°
27. Which of the following is a mesomorphous material?
- (A) Silver (B) Lead
(C) Brass (D) Mica
28. High speed steel temperature is :
- (A) 900°C (B) 100°
(C) 300° (D) 2600°
29. What is cutting 'Feed'?
- (A) Tool advance for 2 minute (B) Tool advance for 3 minute
(C) Tool advance for 4 minute (D) Tool advance for one rotation
30. What is lip angle?
- (A) 20° to 40° (B) 30° to 50°
(C) 60° to 80° (D) 80° to 120°
31. An Alloy of copper, tin and zinc is known as :
- (A) Brass (B) Gun metal
(C) Bronze (D) Cast iron
32. What is cutting speed?
- (A) Tool advance for work in one minute
(B) Tool advance for 3 minute
(C) Tool advance for 2 minute
(D) Tool advance for one rotation
33. Discontinuous chips are formed during machining of :
- (A) Brittle metals (B) Hard metals
(C) Soft metals (D) Hard and soft metals

34. The angle made by the face of the tool and the plane parallel to the base of cutting tool is called :
- (A) Cutting angle (B) Lip angle
(C) Rake angle (D) Clearance angle
35. The lower critical point for all steel is :
- (A) 623° C (B) 723° C
(C) 913° C (D) 523° C
36. Combination central drill angle is :
- (A) 55° (B) 118°
(C) 29° (D) 60°
37. Carbide tipped tools usually have :
- (A) Any rake angle (B) Positive rake angle
(C) Negative rake angle (D) No rake angle
38. Hard and tough materials like cast iron should be turned at :
- (A) Slow speed (B) High speed
(C) Any speed (D) Very high speed
39. Ceramic tools are fixed to tool body by :
- (A) soldering (B) brazing
(C) welding (D) clamping
40. For machining a mild steel work piece using carbide tool, the maximum material will be removed at a temperature of :
- (A) 200° C (B) 300° C
(C) 175° C (D) 100° C
41. Lathe centrers angles is :
- (A) 55° (B) 65°
(C) 60° (D) 70°
42. Crater wear is predominant in :
- (A) Tungsten carbide tools (B) Carbon tool steels
(C) High speed steel (D) Carbon tip tool

43. Which type of tools are used on Lathe shapper and planer?
 (A) Two point cutting tool (B) Three point cutting tool
 (C) Multi point cutting tool (D) Single point cutting tool
44. Twist drill standered cutting angle is :
 (A) 90° (B) 55°
 (C) 118° (D) 60°
45. The swing diameter over the bed is _____ the height of the centre measured from the bed of the lathe.
 (A) Equal to (B) Twice
 (C) Thrice (D) One half
46. The diamond tool material at temperature upto :
 (A) 1650°C (B) 1300°C
 (C) 1200°C (D) 1400°C
47. The chuck preferred for quick setting and accurate centering of a job is :
 (A) Four jaw independent chuck (B) Collect chuck
 (C) Magnetic chuck (D) Three jaw universal chuck
48. The cutting fluid mostly used for machining steel is :
 (A) Water (B) Dry
 (C) Heavy oil (D) Soluble oil
49. The point angle of a drill, for drilling stainless steel is :
 (A) 90° (B) 118°
 (C) 135° (D) 150°
50. The steel widely used for making precision measuring instruments is :
 (A) Nickel steel (B) Nickel - Chromium steel
 (C) High speed steel (D) High carbon steel
51. With the same tool life, the maximum material per minute is removed by :
 (A) Increasing the feed rate (B) Decreasing the cutting speed
 (C) Increasing the cutting speed (D) Increasing the depth of cut

52. The lead screw of a lathe has _____ threads.
- (A) single start (B) double start
(C) V. thread (D) multi-start
53. The least count of the vernier bevel protractor is :
- (A) 6 minute (B) 7 minute
(C) 8 minute (D) 5 minute
54. Screw pitch gauge is mainly used to check :
- (A) Boring
(B) Used to check external and internal threads
(C) Knurling
(D) Under cutting
55. An operation of embossing a diamond shaped pattern on the surface of work piece, is known :
- (A) Threading (B) Grooving
(C) Knurling (D) Step cutting
56. Drilling is an example of :
- (A) multi cutting (B) oblique cutting
(C) simple start cutting (D) orthogonal cutting
57. A sine bar is specified by its :
- (A) width (B) length
(C) diameter (D) step
58. What material is used to make scriber?
- (A) Carbon tool steel (B) High carbon tool steel
(C) High speed steel (D) Mild steel
59. Who is the founder of fundamental principle of screw cutting lathe?
- (A) Henry Richards (B) Samuel
(C) Henrimanslae (D) Wilson de Paul

60. What is the angle of worm thread?
- (A) 49° (B) 55°
 (C) $47\frac{1}{2}^\circ$ (D) 29°
61. Formula for finding R.P.M. in British system :
- (A) $\frac{\text{Cutting speed} \times 12}{\pi D}$ (B) $\frac{\text{Cutting speed} \times 24}{\pi DL}$
 (C) $\frac{\text{Cutting speed} \times 18}{\pi D}$ (D) $\frac{\text{Cutting speed} \times 20}{\pi D}$
62. The operation of making a cone – shaped enlargement of the end of a hole is known as :
- (A) counter – boring (B) spot facing
 (C) boring (D) counter – sinking
63. Trepanning is an operation of :
- (A) Making a cone – shaped enlargement of the end of a hole
 (B) Producing a hole by removing metal along the circumference of a hollow cutting tool
 (C) Smoothing and squaring the surface around a hole
 (D) Finishing a small diameter hole
64. The washer is generally specified by its :
- (A) Outer diameter (B) Thickness
 (C) Mean diameter (D) Hole diameter
65. Low helix angle drills are preferred for drilling holes in :
- (A) Copper (B) Aluminium
 (C) Plastics (D) Cast steel
66. A tool used to withdraw a drill from the sleeve is called :
- (A) Drill puller (B) Drill drawer
 (C) Drill rotator (D) Drift
67. The enlarging of an existing circular hole with a rotating single point tool is called :
- (A) boring (B) reaming
 (C) drilling (D) knurling

68. The grinding of long, slender shafts or bars is usually done by :
- (A) In feed grinding (B) End feed grinding
(C) Through feed grinding (D) Speed grinding
69. The cutting fluid mostly used for machining alloy steels is :
- (A) water (B) sulphurised mineral oil
(C) soluble oil (D) dry
70. The trade name of a non ferrous cast alloy composed of cobalt, chromium and tungsten is called :
- (A) stellite (B) diamond
(C) cast iron (D) ceramic
71. Tool signature consists of _____ elements.
- (A) Six (B) Four
(C) Seven (D) Eight
72. A grinding wheel is said to be of _____ if it holds the Abrasive grains more securely.
- (A) Soft grade (B) Hard grade
(C) High grade (D) Medium grade
73. The process of changing the shape of grinding wheel as it becomes worn due to breaking away of the abrasive and bond, is called :
- (A) Turning (B) Facing
(C) Boring (D) Dressing
74. Chip breakers are used to :
- (A) increase tool life
(B) to minimise heat generation
(C) remove chips from bed
(D) break the chips into short segments
75. The lathe spindles are usually made hollow and provided with :
- (A) Internal taper (B) No taper
(C) External taper (D) Step taper