

168/2014

Maximum : 100 marks

Time : 1 hour and 15 minutes

1. Ceramic cutting tools are made from :

(A) Tungsten powder	(B) Aluminium oxide powder
(C) Titanium oxide powder	(D) Iron carbide powder
2. In a vernier micrometer 0.001" is divided into 10 divisions in vernier scale. The 10 vernier scale divisions is equal to how many thimble divisions for getting 0.0001" accuracy?

(A) 9 divisions	(B) 20 divisions
(C) 10 divisions	(D) 24 divisions
3. The cutting edge becomes stronger where the cutting tool is provided with :

(A) Zero back rake angle	(B) Positive back rake angle
(C) Side rake angle	(D) Negative back rake angle
4. The fixtures are :

(A) Hold and locate the work	(B) Control the cutting tools
(C) Holding the cutting tools	(D) Guiding the cutting tools
5. In a progressive plug gauge the 'GO' and 'NO GO' ends are placed at :

(A) Both the ends	(B) One end only
(C) 'GO' at one end and 'NO GO' end at other end	(D) Middle portion
6. If a cutting tool set above the centre line of the work piece, which effect will take place on the tool?

(A) Side rake angle increases	(B) Rake angle increases
(C) Clearance angle increases	(D) Relief angle decreases
7. For a turning operation, the 'l' is the length of job, 'f' is the feed rate and 'n' is the r.p.m. of work. The cutting time for turning is calculated by :

(A) $\frac{f}{l \times n}$. minutes	(B) $\frac{n}{f \times l}$. minutes
(C) $\frac{f \times n}{l}$. minutes	(D) $\frac{l}{f \times n}$. minutes

8. Which is the term that is no connection with boring operation?
- (A) Originate a hole (B) Enlarge a hole
(C) Finish a hole (D) Positioning a hole
9. Which is the tool has no connection with checking and measuring a screw thread?
- (A) Screw pitch gauge (B) Thread ring gauge
(C) Thread chasing dial (D) Screw thread micrometer
10. An universal bevel protractor has an accuracy of :
- (A) 10 minutes (B) 5 minutes
(C) 1 minutes (D) 24 minutes
11. The steel containing 0.8% carbon, the steel has a structure of :
- (A) Cementite (B) Peardite
(C) Martensite (D) Ferrite
12. While heating a steel the 'austenite' structure is formed at 723°C, this temperature is called :
- (A) Upper critical temperature (B) Melting temperature
(C) Tempering point temperature (D) Lower critical temperature
13. A pipe thread has an angle of :
- (A) 60° (B) 45°
(C) 55° (D) 29°
14. Tool maker's button is used while boring for :
- (A) Accurate boring (B) More finish
(C) Accurate roundness (D) Accurate positioning the hole
15. For turning a multi-start thread of 2 mm pitch, we can find out the gears. For calculating the change gears we can take the 'lead' of work is :
- (A) 6 mm (B) 2 × No.of starts
(C) 6 × No.of starts (D) 2 mm
16. A clearance angle should be provided from the helix angle leading side and following side. The helix angle of the thread at the leading side is :
- (A) $\frac{\text{Lead}}{\text{Minor dia.}}$ (B) $\frac{\text{Lead}}{\text{Major dia.}}$
(C) $\frac{\text{Lead}}{\text{Pitch dia.}}$ (D) $\frac{\text{Lead}}{\text{Nominal dia.}}$

17. Ultrasonic machining is a process of :
(A) A conventional machining (B) A non-conventional machining
(C) A special type of grinding (D) An abrasive jet cutting
18. A wheel lathe is a :
(A) Special purpose lathe (B) Heavy duty lathe
(C) Lathe erected below ground level (D) All of the above
19. A capstan lathe has :
(A) Auxiliary slide (B) Two auxiliary slides
(C) No. auxiliary slide (D) Saddle and auxiliary slide
20. While holding a chuck on a head stock spindle, the perfect aligning of spindle and chuck is obtained by a spindle nose of :
(A) Threaded nose (B) Short taper nose
(C) Long taper nose with flange (D) By using back plate
21. While holding a work on a collet chuck, the work has no movement while holding a :
(A) Draw back collet chuck (B) Push out collet chuck
(C) Ordinary collet chuck (D) Dead length collet chuck
22. The resistance of a metal against wear is :
(A) Hardness (B) Toughness
(C) Ductility (D) Malleability
23. Cyaniding is a process of case hardening, in which the steel surfaces receives :
(A) Carbon and silicon (B) Carbon and nitrogen
(C) Carbon and hydrogen (D) Carbon and phosphorus
24. The least count of a vernier caliper is the difference of :
(A) 1 VSD — 1 MSD (B) 1 MSD — 1 VSD
(C) 1 VSD — 2 MSD (D) 1 MSD + 1 VSD
25. Higher temperatures in the furnaces are measured by :
(A) Pyrometer (B) Thermometer
(C) Tacco meter (D) Barometer

26. The least count of a micrometer is a value connection with its threads measurements, it is :
(A) Pitch \times No. of threads per inch
(B) Lead \times No. of threads per inch
(C) Reciprocal of its pitch
(D) Pitch \div No. of divisions on the thimble
27. The level of a lathe bed while erecting a Lathe is checked by :
(A) A long rule
(B) A spirit level
(C) A steel tape
(D) A dial test indicator
28. The ratchet stop is a part provided on micrometer for :
(A) Accurate measuring
(B) Protecting the threads from damaging
(C) Protecting the threads from over tightening
(D) All of the above
29. The distance travelled by a bolt in a nut in one complete revolution is :
(A) Pitch
(B) $2 \times$ Pitch
(C) Lead
(D) Lead + Pitch
30. The following is not a function of tumbler gear :
(A) Changing the direction of spindle rotation
(B) Changing the direction of lead screw rotation
(C) Connect drive from head stock to change gears
(D) Keeping neutral position when auto feed not required
31. Which work holding device must be used where taper turning by tail stock off-set method?
(A) Face plate with carrier
(B) Catch plate with carrier and ball centre
(C) Universal chuck
(D) 3-Jaw chuck with ball centre
32. A hexagonal shaped work can be hold accurately and easily on :
(A) Four jaw independent chuck
(B) Face plate
(C) Three jaw self centering chuck
(D) None of the above

33. Which is not a reason for that the drilled hole is larger than drill size, where the drill has :
- (A) Different lip length (B) Play of spindle
(C) Lack of coolant (D) Work is not clamped properly
34. Thin cut-off grinding wheels are made by :
- (A) Sillicate bond (B) Organic bond
(C) Vitrified bond (D) Cement bond
35. The reaming allowance provided for 50–75 mm holes is :
- (A) 0.75 mm (B) 0.25 mm
(C) 0.5 mm (D) 0.1 mm
36. The gap between abrasives of a grinding wheel is clogged with chips and cutting action of the wheel is lost, this defect is known as :
- (A) Glazing (B) Loading
(C) Unbalancing (D) Out of round
37. The drill produces unusual sound and the cutting is slow, it is due to :
- (A) Higher point angle (B) Lower point angle
(C) More helix angle (D) Low lip clearance angle
38. Larger holes are finished by a reamer known as :
- (A) Machine reamer (B) Shell reamer
(C) Hand reamer (D) Adjustable reamer
39. Good surface finishing is produced while taper turning used by the method :
- (A) Swiveling compound slide method
(B) Combined feed method
(C) Attachment method
(D) Filing
40. Avoiding sudden maximum load on a lathe cutting tool is obtained by :
- (A) Side cutting edge angle (B) End cutting edge angle
(C) Front clearance angle (D) None of the above

41. The operation performed on a lathe for correcting the length of work piece is that :
(A) Plain turning (B) Taper turning
(C) Face turning (D) Under cutting
42. The cutting tool advance into the work per revolution is called :
(A) Feed (B) Cutting speed
(C) Depth of cut (D) Pitch
43. Which type of lathe centre permits to hold the work at an angle?
(A) Dead centre (B) Ball centre
(C) Tipped centre (D) Half centre
44. Morse tapers are available in a series of :
(A) MT - 1 to MT - 7 (B) MT - 0 to MT - 7
(C) MT - 0 to MT - 6 (D) MT - 1 to MT - 6
45. A metal which is expand and contracts when it is heating and cooling. This property of the metal called :
(A) Mechanical (B) Chemical
(C) Thermal (D) Physical
46. Cutting tools are made in the form of tips for turning purposes are made of :
(A) Cemented carbide (B) High speed steel
(C) High carbon steel (D) Manganese steel
47. Cast-iron is a product from :
(A) Arc furnace (B) Cupola furnace
(C) Blast furnace (D) Pit furnace
48. Which type of alloy steel requires pre-heating when hardening?
(A) Stainless steel (B) Vanadium steel
(C) Invar steel (D) High speed steel
49. Coarse knurling has a pitch of :
(A) 1.75 mm (B) 1.25 mm
(C) 1.5 mm (D) 1 mm

50. Which is the operation performed for eliminating sharp edges at the corners while lathe operations?
- (A) Knurling (B) Chamfering
(C) Under cutting (D) Grooving
51. The nose angle of a lathe single point cutting tool is formed in between :
- (A) End cutting edge angle and front clearance angle
(B) End cutting edge angle and side rake angle
(C) End cutting edge angle and side cutting edge angle
(D) Side rake angle and side cutting edge angle
52. The head stock spindle nose has a :
- (A) Plain nose (B) Long taper nose
(C) Short taper nose (D) All of the above
53. For balancing a counter weight is required while clamping work on a :
- (A) Catch plate (B) Face plate
(C) Back plate (D) Four jaw chuck
54. Heat treatment for steel is done for changing its structure and mechanical property. Which treatment is done for getting a uniform structure of steel?
- (A) Tempering (B) Annealing
(C) Normalising (D) Hardening
55. Taper turning by swiveling compound slide method, the compound slide is swiveled to :
- (A) Full taper angle (B) Half taper angle
(C) $2 \times$ full taper angle (D) $\frac{1}{4}$ th of taper angle
56. Wrought iron containing :
- (A) Iron, Carbon and Sulphur (B) Iron, Carbon and Nickel
(C) Iron, Carbon and Silicon (D) Iron, Carbon and Flux
57. Which is the following die is used for cutting accurate threads?
- (A) Solid die (B) Split button die
(C) Die nut (D) Two piece adjustable die

58. The difference between maximum limit of size and the minimum limit of size is :
(A) Basic size (B) Nominal size
(C) Actual size (D) Tolerance
59. A grinding wheel is marked with 'AIG P.5 VBE' where '5' indicates :
(A) Grain size (B) Grade of bond
(C) Structure (D) Type of bond
60. Which is the coolant commonly used while drilling mild steel on lathe?
(A) Kerosene (B) Soluble oil
(C) Vegetable oil (D) Lard oil
61. The radius between the steps checked by :
(A) Fillet gauge (B) Ring gauge
(C) Feeler gauge (D) Radius gauge
62. The positive top back rake angle provided on a lathe cutting tool, it best used for cutting :
(A) Aluminium (B) Wood
(C) Brass (D) All of the above
63. While finish turning the cutting speed selected is :
(A) Same as rough turning (B) Two times more than rough turning
(C) Less than rough turning (D) Speed more than 600 r.p.m.
64. Which one of the following, the thread form used on lathe tail stock spindle?
(A) 'V' thread (B) Trapezoidal thread
(C) Square thread (D) Sawtooth thread
65. If the percentage of carbon increases highly in the steel it will tend to make the steel :
(A) Soft and tough (B) Hard and brittle
(C) Soft and maleable (D) Hard and ductile
66. Which one of the file is suitable for filing on Lathe works?
(A) Single cut file (B) Double cut file
(C) Seconed cut file (D) Rasp cut file

67. The no. of spindle speeds available from a cone pulley head stock where the cone pulley have 4-step is :
- (A) 4 – speeds (B) 12 – speeds
(C) 16 – speeds (D) 8 – speeds
68. Lead is the metal used for as a counter weight for balancing the faceplate when it is mounted on Lathe spindle, the reason for selecting lead is :
- (A) Most ductile (B) Most heaviest
(C) Toughest (D) Most elastic
69. While turning operation the cutting edge of tool is chipped off; for reducing this defect which will be the suitable provision from the following?
- (A) Increase feed rate (B) Decrease nose radius
(C) Reduce cutting speed (D) Use Negative rate
70. The tailstock spindle hole is provided with :
- (A) Metric taper (B) Morse taper
(C) Jarno taper (D) Brown and sharp taper
71. In the system of limits and fits; a hole size is given as 50 mm basic size and maximum and minimum limit given as +50 and +7. Which of the following is a correct statement?
- (A) Hole Max. 50.05 and Min. 50.07 mm
(B) Hole Max. 50.5 and Min. 50.007 mm
(C) Hole Max. 50.05 and Min. 50.007 mm
(D) Hole Max. 50.005 and Min. 50.007 mm
72. Which is the chuck used for holding a work quickly and with high gripping power?
- (A) Four jaw independent chuck (B) Hydraulic chuck
(C) Three jaw chuck (D) Collet chuck
73. Which type of tool post have, the tool height is quickly adjustable?
- (A) Single way tool post (B) British type tool post
(C) Four way tool post (D) Open side tool post
74. The parting-off operation cannot be done when the work is held by :
- (A) Four jaw independent chuck (B) Three jaw self centering chuck
(C) Between centers (D) Collet chuck

75. Lathe dogs are :
(A) Work supporting device (B) Work holding device
(C) Tool holding device (D) Tool guiding device
76. A lathe bed is made with :
(A) High carbon steel (B) Medium carbon steel
(C) Hardened steel (D) Cast-iron
77. A 'pip' is formed at the centre while facing, it is due to :
(A) Work is not clamped properly
(B) Tool cutting edge set above the centre line of work
(C) Tool not clamped properly
(D) All of the above
78. Side relief angle only provided for :
(A) Facing tool (B) Left hand turning tool
(C) Parting-off tool (D) Thread turning tool
79. Which is not a part of feed mechanism of a lathe?
(A) Tumbler gear (B) Bull gear
(C) Feed rod (D) Change gears
80. Which is a artificial abrassive?
(A) Quartz (B) Silica sand
(C) Silicon carbide (D) Granite
81. The demarcation line between North Korea and South Korea is :
(A) 38th Parallel (B) 24th Parallel
(C) 17th Parallel (D) 49th Parallel
82. What Movement was started by way of agitation against the first Partition of Bengal?
(A) Civil Disobedience Movement (B) Swadeshi Movement
(C) Non Cooperation Movement (D) Khilafat Movement
83. Who is the author of the book "A Brief History of Time"?
(A) Pearl S. Buck (B) E.M.Forster
(C) William Shakespeare (D) Stephen Hawking

84. Which one of the following countries is not a permanent member of U.N.O?
(A) U.S.A. (B) China
(C) France (D) Japan
85. Tadoba National Park is in :
(A) Uttar Pradesh (B) Madhya Pradesh
(C) Maharashtra (D) Assam
86. Birth place of Sri Narayana Guru is :
(A) Aruvippuram (B) Chempazhanti
(C) Varkala (D) Kaladi
87. The Commission formed to study feasibility of Telengana State :
(A) Kasthurirangan (B) Sri Krishna
(C) Lakdawala (D) Yash Pal
88. World Wetlands Day is on :
(A) February 2 (B) December 2
(C) December 5 (D) February 28
89. Who said these words-"That is one small step for a man,one giant leap for mankind"?
(A) Sunita Williams (B) Buzz Aldrin
(C) Micheal Collins (D) Neil Armstrong
90. Who developed Oral Polio Vaccine(OPV)?
(A) Albert Sabin (B) William J.Kolff
(C) Philip Drinker (D) Benjamin A. Rubin
91. 'Vaikom Satyagraha' was started in :
(A) 1930 (B) 1924
(C) 1931 (D) 1936
92. The capital of Jharkhand is :
(A) Raipur (B) Jaipur
(C) Ranchi (D) Dehra Dun

93. Which is the only country in the world that has its map on its flag?
(A) Croatia (B) Syria
(C) Cyprus (D) Somalia
94. Who is known as 'Father of Indian Constitution'?
(A) Dr. B.R. Ambedkar (B) Dr. Rajendra Prasad
(C) Jawaharlal Nehru (D) Sardar Vallabhbhai Patel
95. Tihar Jail is in :
(A) Pune (B) Allahabad
(C) Ahammadabad (D) Delhi
96. Who gave the "Theory of Evolution"?
(A) Albert Einstein (B) Max Planck
(C) Ptolemy (D) Charles Darwin
97. The first general election in India was held in :
(A) 1952 (B) 1950
(C) 1956 (D) 1951
98. 'Subsidiary Alliance System' was carried out by :
(A) Lord Cornwallis (B) Lord Dalhousie
(C) Lord Wellesley (D) Lord Curzon
99. World Chess Champion of 2013?
(A) Magnus Carlsen (B) Vishwanathan Anand
(C) Vladimir Kramnik (D) Peter Svidler
100. An example for the Peninsular river in India is :
(A) Ganga (B) Godavari
(C) Ghaghra (D) Gomti