

159/24

Question Booklet Alpha Code

A

Question Booklet Sl. No.

A

Total Number of Questions : 100

Time : 90 Minutes

Maximum Marks : 100

INSTRUCTIONS TO CANDIDATES

1. The Question Paper will be given in the form of a Question Booklet. There will be four versions of Question Booklets with Question Booklet Alpha Code viz. **A, B, C & D**.
2. The Question Booklet Alpha Code will be printed on the top left margin of the facing sheet of the Question Booklet.
3. The Question Booklet Alpha Code allotted to you will be noted in your seating position in the Examination Hall.
4. If you get a Question Booklet where the alpha code does not match to the allotted alpha code in the seating position, please draw the attention of the Invigilator **IMMEDIATELY**.
5. The Question Booklet Serial Number is printed on the top right margin of the facing sheet. If your Question Booklet is un-numbered, please get it replaced by new Question Booklet with same alpha code.
6. The Question Booklet will be sealed at the middle of the right margin. Candidate should not open the Question Booklet, until the indication is given to start answering.
7. Immediately after the commencement of the examination, the candidate should check that the Question Booklet supplied to him/her contains all the 100 questions in serial order. The Question Booklet does not have unprinted or torn or missing pages and if so he/she should bring it to the notice of the Invigilator and get it replaced by a complete booklet with same alpha code. This is most important.
8. A blank sheet of paper is attached to the Question Booklet. This may be used for rough work.
9. **Please read carefully all the instructions on the reverse of the Answer Sheet before marking your answers.**
10. Each question is provided with four choices **(A), (B), (C)** and **(D)** having one correct answer. Choose the correct answer and darken the bubble corresponding to the question number using Blue or Black Ball Point Pen in the OMR Answer Sheet.
11. **Each correct answer carries 1 mark and for each wrong answer 1/3 mark will be deducted. No negative mark for unattended questions.**
12. No candidate will be allowed to leave the examination hall till the end of the session and without handing over his/her Answer Sheet to the Invigilator. Candidates should ensure that the Invigilator has verified all the entries in the Register Number Coding Sheet and that the Invigilator has affixed his/her signature in the space provided.
13. Strict compliance of instructions is essential. Any malpractice or attempt to commit any kind of malpractice in the Examination will result in the disqualification of the candidate.

A

159/24

A

-2-

159/24

11. Which property of tool material to prevent breakage or bending of cutting tool when sudden load or impact applied ?
A) Tenacity B) Hardness C) Toughness D) Brittleness
12. What is the recommended cutting speed for Turning Aluminium ?
A) 70 – 100 B) 90 – 115 C) 35 – 65 D) 55 – 80
13. Which statement is correct about the term machine tool ?
A) Very large size equipment
B) Power driven machine to perform various metal cutting operation
C) Power driven machine to reduce human labour
D) None of these
14. Which mechanism is used in a spring pole lathe to rotate the workpiece ?
A) By motor B) By pedal C) By clutch D) By lever
15. Which is the wrong statement about the lathe specification ?
A) Height of centres from lathe bed
B) Length of tail stock
C) Length of bed
D) Maximum distance between centres
16. Which type of thread is provided in a four jaw chuck screw shaft ?
A) Right hand acme B) Right hand BSW
C) Left hand BSW D) Left hand square
17. Which part is 'H' shaped iron casting on lathe bed ways ?
A) Apron B) Cross slide
C) Saddle D) Compound rest
18. Which accessory is used along with the bent type carrier to transfer the drive from spindle to workpiece ?
A) Driving plate B) Angle plate C) Scroll plate D) Catch plate

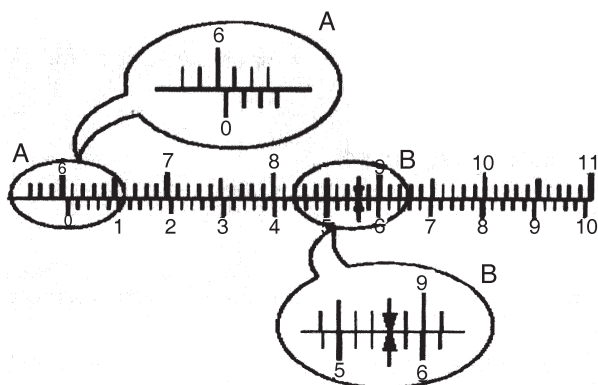
A

159/24

29. What is the least count of commonly used metric three point internal micrometer ?
A) 0.001 mm B) 0.005 mm C) 0.05 mm D) 0.0001 mm
30. What is the formula using for Turning Time Calculation ?
- A) $\frac{\text{Length of cut} \times \text{RPM}}{\text{No. of cut} \times 1000}$ B) $\frac{\pi \times \text{Diameter} \times \text{RPM}}{1000}$
- C) $\frac{\text{Length of cut} \times \text{No. of cut}}{\text{Feed} \times \text{RPM}}$ D) $\frac{\text{Feed} \times \text{RPM}}{\text{Diameter} \times \text{length of cut}}$
31. The name of beveled surface of the outside micrometer, in which the graduation is marked fitting ?
A) Barrel B) Thimble C) Sleeve D) Vernier block
32. Which are correct statement in the case of digital micrometer ?
- I. The LCD displays measuring data and makes direct read out with resolution of 0.001 mm.
II. LCD displays measuring data and makes direct read out with resolution of 0.005 mm.
III. Measuring faces are made out of alloy steel and finished to a perfectly flat surface.
IV. It's provided with Carbide tipped measuring faces.
- A) I and II B) II and III C) I and IV D) I and III
33. Which are correct statement in the case of outside micrometer ?
- I. The circumference of the bevel edge of the thimble is graduated into 50 divisions.
II. The circumference of the bevel edge of the thimble is graduated into 25 divisions.
III. In metric micrometers the pitch of the spindle thread is 0.5 mm.
IV. In metric micrometers the pitch of the spindle thread is 0.01 mm.
- A) I and II B) II and III C) III and IV D) I and III
34. The accuracy of common type Vernier Calliper which are used for measuring turning surface
A) 0.02 mm B) 0.01 mm C) 0.002 mm D) 0.001 mm

A

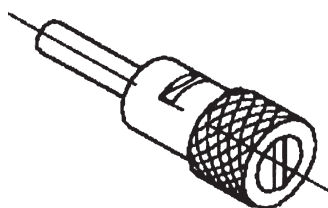
35.



The figure shows the reading of measurement taken by using Vernier Calliper the correct reading is what ?

- A) 60.88 mm B) 68.16 mm C) 60.56 mm D) 60.28 mm

36. Name this part of External Micrometer.

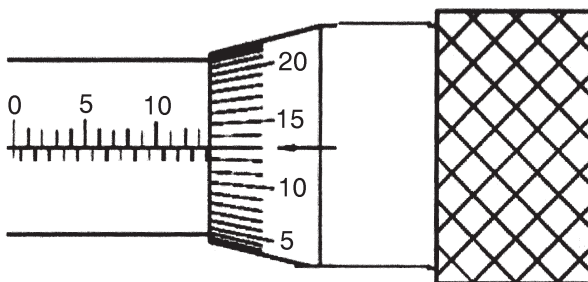


- A) Spindle lock B) Barrel C) Spindle nose D) Ratchet stop

37. If set the anvil face and spindle face of External micrometer is close together, the zero mark of circular scale is above the main scale line, then the zero error of micrometer is said to be

- A) Positive B) Negative C) Limits D) Transition

38.



The figure shows the Reading, while measuring with a 50 to 75 mm micrometer, which one is correct reading ?

- A) 60.63 mm B) 64.26 mm
C) 13.26 mm D) 64.13 mm

159/24

58. Which letter is indicated conicity of taper ?
A) T B) A C) K D) C
59. In assembled parts which one provides self alignment ?
A) Split pin B) Bolt and nut C) Taper D) Rivet
60. Tapers can be expressed by
A) Small dia and length B) Big dia, small dia, length
C) Big dia, length D) Small dia, big dia
61. The ratio between the opposite side to the adjacent side of a right angled triangle is
A) tan value B) sine value C) cos value D) cot value
62. What is the taper angle of metric taper ?
A) 1° 30' B) 1° 29' 29" C) 3° D) 2° 51' 51"
63. The diameter of taper pin is specified by
A) Big diameter B) Length of taper
C) Big dia length D) Small diameter
64. Which formula is used to find big diameter dimension of jarno taper ?
A) $\frac{\text{Number}}{10}$ B) $\frac{\text{Number}}{8}$
C) $\frac{\text{Number}}{2}$ D) $\frac{\text{Number}}{6}$
65. Using compound slide method which one is not produced ?
A) Taper turning external B) Plain boring
C) Taper thread cutting D) Taper turning internal
66. In tail stock offset method which one of the principle is followed ?
A) Job held parallel to the axis and tool moves at an angle
B) The job held at an angle and tool moves parallel to angle of work
C) The job held at an angle and tool moves parallel to the axis
D) The job held parallel to the axis and tool moves parallel to the work

A

67. What is the taper ratio of British standard pin taper ?
 A) 1 : 30
 B) 1 : 20
 C) 1 : 48
 D) 1 : 50
68. During taper turning by off setting tail stock
 A) Body of tail stock off set
 B) Tail stock spindle off set
 C) Whole tail stock off set
 D) Tail stock base off set
69. Morse standard taper is available in
 A) 16 Nos. B) 12 Nos. C) 10 Nos. D) 8 Nos.
70. When using a taper turning attachment for turning taper, the formula used for calculating the setting angle is
 A) $\tan\phi = \frac{D-d}{2l}$
 B) $\tan\phi = \frac{D-d}{l}$
 C) $\tan\phi = \frac{2L}{D-d}$
 D) $\tan\phi = \frac{2}{D-d}$
71. Which of the following statement is false ?
 A) Threads are used for transmission of motion
 B) Pitch and lead of a single start thread is equal
 C) If the tightening force on the screw thread is applied in anti-clockwise direction the thread is said to be right hand thread
 D) Thread angle is the included angle between two flanks of the thread
72. What is pitch diameter of a thread ?
 A) The difference between minor diameter and depth of thread
 B) The difference between minor diameter and single depth of thread
 C) The difference between major diameter and depth of thread
 D) The difference between major diameter and single depth of thread
73. Name the type of thread whose one flank is perpendicular to the axis of the thread and the other flank is inclined.
 A) Acme thread B) Knuckle thread
 C) Buttress thread D) Worm thread

159/24

74. Which statement is true in the case of a worm thread ?
- A) Used in places where motion is to be transmitted between shafts at any angles
 - B) Gives a high rate of speed reduction
 - C) The depth and width of thread is same as acme thread
 - D) All of the above
75. If a thread is designated as $M12 \times 1.5$ how much will be minor diameter of the thread ?
- A) 10.82 mm
 - B) 10.16 mm
 - C) 9.84 mm
 - D) 11.08 mm
76. What is the purpose of buttress thread ?
- A) Positioning of mechanical parts
 - B) Motion transmission
 - C) Handling high axial thrust in one direction
 - D) Used where quick motion is required
77. Determine the change gears to cut a 2.5 mm pitch thread on a lathe having 5 mm pitch lead screw.
- A) Driver 50 teeth and Driven 120 teeth
 - B) Driver 50 teeth and Driven 100 teeth
 - C) Driver 45 teeth and Driven 80 teeth
 - D) Driver 70 teeth and Driven 120 teeth
78. What is the lead of $M20 \times 2.5$ triple start thread ?
- A) 2.5
 - B) 5
 - C) 7.5
 - D) 20
79. Which driver gear is used to cut 3 mm pitch thread on a 6 mm pitch lead screw lathe, if the driven gear have 120 teeth ?
- A) 60 teeth
 - B) 80 teeth
 - C) 90 teeth
 - D) 100 teeth
80. Which is the most suitable instrument used to measure the minor diameter of external thread ?
- A) Screw thread micrometer
 - B) Three wire method of screw thread measurement
 - C) Thread plug gauge
 - D) Vernier calliper

A

81. What is the purpose of hand chaser ?
- A) Mass production of thread
 - B) To follow the previously cut path during thread cutting
 - C) To correcting and finishing a thread
 - D) To check the thread formed during thread cutting
82. Which of the following criteria is used for the selection of interchangeable anvil of a screw thread micrometer ?
- A) Angle of thread
 - B) Major diameter of thread
 - C) Root diameter of thread
 - D) Pitch and profile of thread

83. Match the table suitably.

1.	Screw thread micrometer	i.	Bolt
2.	Thread Plug gauge	ii.	Nut
3.	Thread ring gauge	iii.	Effective diameter of the thread

- A) 1 – i, 2 – ii, 3 – iii
 - B) 1 – i, 2 – iii, 3 – ii
 - C) 1 – iii, 2 – ii, 3 – i
 - D) 1 – iii, 2 – i, 3 – ii
84. Which of the following statement is false in case of thread cutting ?
- A) A thread chasing dial is an accessory to catch the thread quickly
 - B) If the pitch to be cut is even number, the thread chasing dial can be engaged at any graduation on the dial
 - C) The driver gear and the driven gear are changed according to the pitch of the thread to be cut on the job
 - D) None of the above
85. Which of the following thread is used in railway carriage coupling ?
- A) Square thread
 - B) Acme thread
 - C) Knuckle thread
 - D) Buttress thread
86. Which of the following statement is false in case of closed loop control system ?
- A) It is equipped to get feedback signal
 - B) Encoder is responsible for the feedback system
 - C) Encoders are placed inside the control unit
 - D) Movement of each axes are timely monitored

95. What is the purpose of ATC in CNC machines ?
- A) Only a software used to change the tool position
 - B) Used to store the tools for different operations
 - C) A mechanism used to change the tools automatically
 - D) A mechanism for tool turret indexing
96. What will be the next tool location in incremental programming system ?
- A) Reference to the first point location
 - B) Reference to the previous tool location
 - C) Reference to the work zero point
 - D) Reference to the machine zero point
97. The letter 'P' in the ISO designation for lathe tool holders PCLNL2525M – 12 indicates
- A) Clamping of insert
 - B) Holder style
 - C) Shape of insert
 - D) Length of holder
98. Which of the following is not requires a compiler program ?
- A) Manual part program
 - B) APT program
 - C) Both A) and B)
 - D) None of the above
99. In which CNC turning operation, the tool nose radius compensation (G41 and G42) is essential ?
- A) Plain turning and Grooving
 - B) Taper turning and Ball turning
 - C) Grooving and step turning
 - D) Drilling
100. Which mechanical part is used to avoid backlash in positioning of tools in CNC machines ?
- A) Recirculating ball screw
 - B) Power lead screw
 - C) Precision feed shaft
 - D) Needle bearing
-

159/24

Space for Rough Work

