Α

**Question Booklet Alpha Code** 



**Total Number of Questions : 100** 

Question Booklet SI. No.

Time: 90 Minutes

4

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.

1.	•	•	ed to be measure the c steel rule cannot reach B) Narrow steel rule D) Plain steel rule	
2.	Which among the foll A) Straight pein ham C) Sledge hammer	·	ed to spread the metal i B) Ball pein hammer D) Cross pein hamm	
3.	According to the grac A) Rough file	le which file is used f B) Second cut file	or heavy reduction of m C) Bastard file	naterials ? D) Smooth file
4.	The accuracy of me length. A) 2 mm	asurement by a Try B) 0.2 mm	square is about C) 0.02 mm	per 10 mm D) 0.002 mm
5.	<ul><li>Which of the following</li><li>A) For finding centre</li><li>B) For marking lines</li><li>C) For making intern</li><li>D) For marking lines</li></ul>	of round rods parallel to the inside al measurement	C	g calliper ?
6.	Which punch is used A) Prick punch	to make light punchi B) Dot punch	ng marks for position d C) Centre punch	ividers ? D) Hollow punch
7.	Narrow surface along called A) Heel	g the groove of the tw B) Margin	ist drill which keep the C) Body	drill aligned is D) Flute
8.	According to the Rak A) 1	e angles, Machine Ta B) 2	aps are classified into C) 3	D) 4
9.	Which of the following A) Die nut C) Circular split die	g is not to be used fo	r cutting new threads ? B) Button die D) Adjustable screw	plate die
10.	Which of the following A) Tap extractor C) Use of Tac welding	-	g broken Tap ? B) Use of punch D) All of the above	

Α

	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. Wh	nat is the recomme	nded cutting speed for	or Turning Aluminium?			
A)	70 – 100	B) 90 – 115	C) 35 – 65	D) 55 – 80		
A) B) C)	Very large size eq Power driven mac	•	us metal cutting operat	ion		
14. Wł	nich mechanism is	used in a spring pole	lathe to rotate the worl	kpiece ?		
A)	By motor	B) By pedal	C) By clutch	D) By lever		
A) B) C)	<ul> <li>15. Which is the wrong statement about the lathe specification ?</li> <li>A) Height of centres from lathe bed</li> <li>B) Length of tail stock</li> <li>C) Length of bed</li> <li>D) Maximum distance between centres</li> </ul>					
16. Wł	nich type of thread	is provided in a four j	aw chuck screw shaft ?	)		
A)	Right hand acme		B) Right hand BSW			
C)	Left hand BSW		D) Left hand square			
17. Wł	nich part is 'H' shap	bed iron casting on la	the bed ways ?			
A)	Apron		B) Cross slide			
C)	Saddle		D) Compound rest			
	nich accessory is undle to workpiece	·	ent type carrier to trans	fer the drive from		
• >	<b>D</b> · · · · ·					

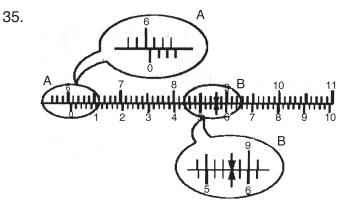
- A) Driving plate B) Angle plate C) Scroll plate D) Catch plate
- Α

19.	9. To avoid over hanging problems while turning lengthy job ; which work holding method is suitable from following ?					
	A) In between centre	S	B)	By using magnetic	chuck	
	C) By using four jaw	chuck	D)	By using collet chu	uck	
20.	Which is the function	of tumbler gear ?				
	A) To change spindle	e speed	B)	To change direction	on of spindle	
	C) To change direction	on of lead screw	D)	To transmit drive f	rom carriage	
21.	The lip clearance ang	gle of a twist drill is be	twe	en		
	A) 112° to 118°	B) 12° to 18°	C)	$8^{\circ}$ to $12^{\circ}$	D) 80° to 112°	
22.	What is the name of m	nachining operation 'Be	evel	ing the end of previo	ously drilled hole' ?	
	A) Boring		B)	Counter boring		
	C) Spot facing		D)	Counter sinking		
23.	Which part of microm	eter ensures uniform	pre	ssure between mea	asuring faces ?	
	A) Sleeve	B) Ratchet Stop	C)	Spindle lock	D) Thimble	
24.	Which part of drill is u	used for measuring the	e dr	ill diameter ?		
	A) Margin	B) Point	C)	Flute	D) Helix	
25.	Which type of hand re	eamer used for reami	ng i	nternal morse taper	red holes ?	
	A) Socket reamer		B)	Taper pin reamer		
	C) Taper shank helic	al fluted reamer	D)	None of these		
26.	In the letter series dri	II, what is the diamete	er of	letter 'A' drill ?		
	A) 10.490 mm	B) 5.120 mm	C)	5.944 mm	D) 10.262 mm	
27.	7. Which is the angle formed by cutting edges of taper and reamer axis ?					
	A) Bevel angle		B)	Taper lead angle		
	C) Cutting edge angl	е	D)	Taper clearance a	ngle	
28.	Which is the suitable	angle for counter sink	king	self tapping screws	s ?	
	A) 65°	B) 75°	-	70°	D) 80°	
	-	-			-	

- 29. What is the least count of commonly used metric three point internal micrometer ?A) 0.001 mmB) 0.005 mmC) 0.05 mmD) 0.0001 mm
- 30. What is the formula using for Turning Time Calculation ?

A)	$\underline{\text{Length of cut} \times \text{RPM}}$	B) $\pi \times \text{Diameter} \times \text{RPM}$
,,,	No. of cut $\times$ 1000	1000
()	Length of cut $\times$ No. of cut	D) Feed × RPM
0)	Feed × RPM	D) Diameter × length of cut

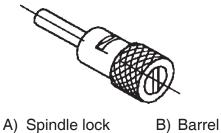
- 31. The name of beveled surface of the outside micrometer, in which the graduation is marked fitting ?
  - A) Barrel B) Thimple C) Sleeve D) Vernier block
- 32. Which are correct statement in the case of digital micrometer ?
  - I. The LCD displays measuring data and makes direct read out with resolution 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
- 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



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

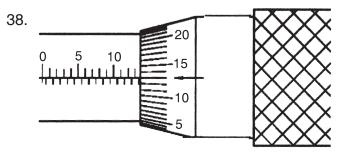
36. Name this part of External Micrometer.



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



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

39.	The scale graduation known as	s or divisions are ma	ırke	d on the beam of V	ernier Calliper is
	A) Vernier scale		B)	Main scale	
	C) Pitch scale		,	Barrel reading	
40.	The micrometer is a p	precision instrument,	whic	ch is works on the p	rinciple of
	A) Acme thread mec	hanism	B)	Crown and spindle	)
	C) Screw and nut		D)	Rack and pinion	
41.	Which one is the example	mple of gravity feed n	neth	od in lubrication ?	
	A) Wick feed method	l	B)	Ring oiling	
	C) Grease cup		D)	Stauffer screw dov	vn method
42.	Which one of the follo	owing is not the prope	rty o	of a good lubricant '	?
	A) Low pour point		B)	High fire point	
	C) Low flash point		D)	High viscosity	
43.	The selection of a coo	plant does not depend	d or	I	
	A) The type of operation	tion	B)	Surface finish requ	lired
	C) The type of workp	iece material	D)	The density of coo	lant
44.	What is the pitch of m	nedium knurling ?			
	A) 1.5 mm	B) 1.25 mm	C)	0.75 mm	D) 1.75 mm
45.	The device is used to bore accurately is	hold machining outsic	le di	ameter of a job with	reference to their
	A) Face plate	B) Catch plate	C)	Mandrel	D) Collet
46.	In BIS system of limit minimum limit of size			between maximum	n limit of size and
	A) Lower Deviation		B)	Allowance	
	C) Tolerance		D)	Upper deviation	
47.	Expression 20 H7/p6	represent a type of F	it. Ir	n this letter "H" deno	otes
	A) Upper deviation of	f hole	B)	Fundamental devia	ation of hole
	C) Fundamental devi	ation of shaft	D)	Actual deviation ho	ble
Α		-8	-		

Α		, -9.				
57.	Included angle of model A) $1\frac{1}{2}^{\circ}$	rse taper is B) 1°	C)	3°	D)	31⁄2°
56.	Metric tapers are exp A) Number C) Degree	ressed in which unit ?	B)	Ratio Taper parameter		
55.	Callipers along with s A) 1 mm	teel rule can measure B) 0.5 mm		e diameter of a job t 0.1 mm		n accuracy of 0.005 mm
54.	Expression 25 H7/p6 + 0.021 and for 25p6 this fit ? A) - 0.001		85. \		m ir	
53.	The tool centre heigh A) Parallel packing C) Set screws	t can be adjusted in a	B)	ır bolt tool post by u Adjusting rocker Tool post adgustin	-	
52.	The plunger type dial A) Lever and scroll m C) Worm and worm v	nechanism	B)	ciple of Rack and pinion m None of the above		anism
51.	The follower rest is fix A) The backend of ca C) Outer guideways	arriage	,	Inner guide ways o Over the tool post	of lat	he bed
50.	<ul><li>Which lathe centre is</li><li>A) Half centre</li><li>C) Swivel V centre</li></ul>	used while facing the	B)	without disturbing Ball centre Tipped centre	the s	setting?
49.	The device used to de A) Driving plate C) Face plate	rive the work during tu	B)	ng in between centr Lathe carrier Chuck	e is	
48.	In a clearance fit, the size of shaft is A) Maximum clearan C) Minimum clearance	се	B)	minimum size of ho Minimum interferer Maximum allowand	nce	nd maximum

58.	Which letter is indicat A) T	ted conicity of taper ? B) A	C)	К	D) C
59.	In assembled parts w			-	
	A) Split pin	B) Bolt and nut	C)	Taper	D) Rivet
60.	<ul><li>Tapers can be exprese</li><li>A) Small dia and length</li><li>C) Big dia, length</li></ul>		,	Big dia, small dia, Small dia, big dia	length
61.	The ratio between the	e opposite side to the a	adja	cent side of a right a	angled triangle is
	A) tan value	B) sine value	C)	cos value	D) cot value
62.	What is the taper and	le of metric taper ?			
	A) 1° 30'	B) 1° 29' 29"	C)	<b>3</b> °	D) 2° 51' 51"
63.	The diameter of tape	r pin is specified by			
	A) Big diameter		B)	Length of taper	
	C) Big dia length		D)	Small diameter	
64.	34. Which formula is used to find big diameter dimension of jarno taper?				
	A) <u>Number</u>		B)	Number	
	10			8	
	C) $\frac{\text{Number}}{2}$		D)	Number 6	
65	_	a mathad which and i	0.00		
03.	Using compound slid				
	A) Taper turning exte		,	Plain boring	
	C) Taper thread cutti	ng	D)	Taper turning inter	rnal
66.	In tail stock offset me	thod which one of the	e pri	nciple 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				
Α		-1(	)-		

67. What is the taper ratio of British standard pin taper ?

- A) 1:30B) 1:20C) 1:48D) 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

Α

- 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 ?

|--|

- 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

- 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 ?

B) Major diameter of threadD) Pitch and profile of thread

- A) Angle of thread
- C) Root diameter 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 –			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

87.	<ul><li>A point to point control</li><li>A) Milling operation</li><li>C) Thread cutting operation</li></ul>	-	only for B) Turning operation D) Drilling operation			
88.	Which G code is used A) G28	d for data input in mm B) G20		G21	D) G90	
89.	<ul><li>Which of the following</li><li>A) Sensors and Enco</li><li>C) Axis motors</li></ul>		B)	CNC machines ? Hydraulic system Power distribution	unit	
90.	<ul> <li>Which of the following</li> <li>A) Workpiece zero point</li> <li>b) Machine zero point</li> <li>C) The distance to we be be been as a series of the series of the</li></ul>	pint determines the wo point ht is a fixed point on a ork zero point from m	ma ach	chine specified by ine zero point will b	the programmer e a fixed value	
91.	What is the meaning N006 G00 Z60 A) Tool retracts from C) Facing operation		B)	? Plain turning opera Chamfering opera		
92.	What is the meaning G71 P10 Q20 U1.0 W A) Depth of cut per p C) Finishing Allowand	/0.5 F0.3 ass in X axis	B)	ram line ? Depth of cut per pa Finishing Allowand		
93.	Which of the following A) G32 C) G76	g G code is not used f	B)	hread cutting ? G75 None of the above	,	
94.	What is the meaning G74 R4.0 ; G74 Z – 50.0 Q8000 A) Step turning opera B) Drilling operation C) Grooving operatio	F0.05 ; ation up to 50 mm len				

D) Plain turning by canned cycle

- 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 ?

-15-

- A) Recirculating ball screw
- B) Power lead screw
- C) Precision feed shaft D) Needle bearing

Space for Rough Work