

Answer Key
V.O.P. Technical Assistant-A (Machine Operation)

Question Number	Answer		Question Number	Answer
1	a		21	b
2	b		22	c
3	c		23	b
4	a		24	b
5	c		25	a
6	b		26	c
7	b		27	b
8	b		28	c
9	a		29	a
10	b		30	c
11	d		31	c
12	a		32	d
13	a		33	b
14	a		34	c
15	b		35	c
16	a		36	b
17	b		37	c
18	c		38	b
19	b		39	c
20	c		40	d





Name of the Candidate:

Roll No:

Date: 27-12-2022

**Sree Chitra Tirunal Institute for Medical Sciences & Technology
Thiruvananthapuram-695012**

V.O.P-TECHNICIAN ASSITANT-A (MACHINE OPERATION)

Written Examination 27-12-2022

Total number of questions: 40

Maximum duration: 50 min

Instructions to Candidates:

1. *All questions carry equal marks.*
2. *For each question, choose the most suitable answer among the choices given and write the corresponding letter A, B, C or D.*
3. *Make relevant assumptions if necessary.*
4. *No negative marks for the wrong answers*

For office use

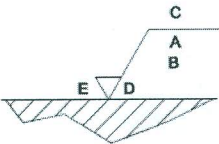
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Marks scored

Question Paper for V.O.P-Technical Assistant-A (Machine Operation)

Sl.No	Questions
1.	Which one of the following materials is used for making a grinding wheel? a) Silicon Carbide b) Granite c) Sand d) Calcium Carbonate
2.	The only difference between die-sink EDM and wire cut EDM is the..... a) way of material removal b) electrode used for the machining c) type of materials machined d) processing time
3.	Sparking gap is the distance between..... a) the workpiece and the CNC table b) the electrode wire and the di-electric fluid c) the workpiece and the electrode wire d) the workpiece and the spark plug
4.	Theoperation is to be done to obtain a concentricity of the previously drilled hole on a lathe machine. a) Boring b) Facing c) Grooving d) Reaming
5.	Aluminium oxide is best suited abrasive for a) brittle materials b) hard materials c) high tensile strength materials d) ceramic materials
6.	M00 code in CNC part programming stands for a) End of program b) Program stop b) End of tape d) End the program temporarily
7.	At what RPM should a lathe be run to give a cutting speed of 25 metres/minute when turning a rod of diameter 32mm. a) 500 RPM b) 250 RPM c) 800 RPM d) 125 RPM
8.	When a material is ductile and cutting speed is low, then chips formed are a) continuous b) continuous chips with built up edge c) discontinuous d) continuous and discontinuous
9.	A jig is defined as a device which a) Holds and locates a workpiece and guides and controls one or more cutting tools b) Holds and locates a workpiece during an inspection or for a manufacturing operation c) Is used to check the accuracy of workpiece d) Is used as template.
10.	For any thread profile, the angle between the inclination of the thread and an imaginary line drawn perpendicular to the axis is know as a) Pitch angle b) Helix angle c) Lead angle d) Taper angle

W. Röntgen

11.	<p>What the letter 'C' in the figure indicates.</p>  <p>a) Surface roughness value b) Direction of Lay c) Machining Allowance d) Manufacturing method or process.</p>
12.	<p>The process of removing metal by a cutter, which is rotated in a direction opposite to the feed of the work-piece is known as.....</p> <p>a) conventional milling b) climb milling c) gang milling d) end milling</p>
13.	<p>Tool life is most affected by.....</p> <p>a) cutting speed b) tool geometry c) feed and depth d) not using coolant and lubricant.</p>
14.	<p>The most important quality of any lubricant is.....</p> <p>a) viscosity b) specific gravity c) specific heat d) emulsification</p>
15.	<p>Which of the following taper is used for shanks of the twist drills?</p> <p>a) Brown taper b) Morse taper c) Sharpe taper d) Jarno taper</p>
16.	<p>What mode switch position lets you move the CNC machine axes manually?</p> <p>a) Jog b) Auto c) MDI (manual data Input) d) Edit</p>
17.	<p>On increasing the value of rake angle, the strength of tool</p> <p>a) increases b) decreases c) remains constant d) is unpredictable</p>
18.	<p>A direct indexing operation is done using an indexing attachment with an index plate of 24 slots. Which one of the following set of divisions cannot be milled on the workpiece?</p> <p>a) 24, 12 b) 8, 6 c) 7, 5 d) 3, 2</p>
19.	<p>Milling cutters are manufactured generally from two materials to give them the required hardness and toughness. Which one of the following is used for this purpose?</p> <p>a) Cast iron and plastic b) High speed steel and carbides c) Mild steel and stainless steel d) Carbon steel and nickel steel</p>
20.	<p>Rotary table is used on milling machine to achieve</p> <p>a) Longitudinal movement b) Cross movement c) Combination of longitudinal and cross movements d) Combination of longitudinal, cross and vertical movements</p>



V. Rammappa

21	The grooves provided on the entire length of the body of the twist drill are called..... a) lip b) flutes c) helix d) web
22	The distance a drill advances into the job in one complete revolution is known as..... a) R.P.M b) cutting speed c) feed d) depth of cut
23	Multi start threads are cut on parts to have a) slower transmission b) faster transmission c) smooth transmission d) to change rotation.
24	In a single point tool the clearance angles are provided to a) influence the cutting action b) avoid rubbing action c) facilitate to control the chip movement d) increase the strength of the cutting edge.
25	Drill sleeve is used when the taper shank of the drill is a) Smaller than the machine spindle b) Larger than the machine spindle c) Equal to the machine spindle d) None of the above
26	A work piece is chamfered to remove burrs. It is observed that the chamfer width is not uniform throughout the periphery of chamfer on the work piece. Which one of the following is the cause for this defect? a) The angle of chamfering is not correct b) The chamfering tool not set square to the work axis c) The work face not running true d) The overhang of the tool is too much
27	There is a greater risk of breaking a wire in wire EDM, if..... a) temperature of the wire is too high b) the flush is not set properly c) larger taper angles are to be cut d) there is an inadequate flow of di-electric fluid
28	Which type of threads are suitable for leadscrews of machine tools? a) British Association Thread b) Whitworth thread c) Acme thread d) N.P.T thread
29	Which of the following does not hold true about wire cut EDM? a) The electrode wire touches the workpiece while cutting the workpiece material b) It can machine any electrically conductive material irrespective of its hardness c) The di-electric fluid gets ionized in between the tool-electrode gap d) During machining, the electrode wire does not get heated
30	Which type of electrode is used for drilling in Electro discharge machining? a) Flat electrode b) Cuboidal electrode c) Tubular electrode d) Spherical electrode

31	A dimension is stated as Dia 25 H7 in a drawing. The lower limit is? a) 24.75mm b) 24.85mm c) 25.00mm d) 25.02mm
32	To get a fine even surface on a workpiece by facing operation on lathe, it is necessary to have a) Low cutting speed, fine feed and heavy depth of cut b) Low cutting speed, fine feed and light depth of cut c) High cutting speed, fine feed and heavy depth of cut d) High cutting speed, fine feed and light depth of cut
33	What is G41 in CNC Programming a) Cutter radius compensation cancel b) cutter radius compensation left c) Cutter radius compensation right d) cutter height compensation
34	What is used to avoid repetition of programme block? a) Main program b) Absolute program c) Sub program d) Incremental program
35	Calculate the change gear to cut 6mmpitch thread on a lathe having lead screw of 9mm pitch, if the driver is of 30 teeth then the driven should have..... teeth a) 20 teeth b) 30 teeth c) 45 teeth d) 60 teeth
36	In a wire cut EDM machine, is used to control the resistivity of the de-electric fluid (water). a) water reservoir b) resin system c) de-ionisation system d) diamond guides
37grades wire are used in automatic re-threading mechanisms. a) Malleable b) Softer c) Harder d) Commercial
38	For machining of high melting point materials, _____ wires are used. a) gallium b) zinc coated c) aluminium coated d) silver
39	Main alloying element in H.S.S is..... a) Chromium b) vanadium c) Tungsten d) Nickel
40	Which among the following tolerance specifications has maximum dimension less than 45mm a) 45 (+0.2, -0.3) b) 45 \pm 0.2 c) 45 (+ 0.0, -0.3) d) 45 (-0.2, -0.3)

V. Rammegh