



RRB ALP 2024 CBT 2

Assistant Loco Pilot · CEN 01/2024 · CBT 2 · Machinist Trade · Part B (Machinist) · Question Paper

English

All 4 Shifts (Sets) · Part B (Machinist) Section · Official Answer Key

About this Compilation

This booklet contains all 4 shift papers of the RRB ALP 2024 CBT 2 (Machinist) examination in English (Part B (Machinist) section only), with the correct option marked as per the official answer key.

✓ Correct option (highlighted green)

5 of these 300 questions are shown in Hindi. Our saved English papers do not carry them in English, so the official Hindi version of the same question is printed instead and marked with a **HINDI** chip. Nothing here is machine translated.

How to use

- Use the **Index** page to jump directly to any set (clickable).
- Questions appear section by section in the order of the paper, numbered 1 onward.
- Diagram and wide-table questions appear at full width at the end of their section.
- The correct answer is highlighted in green with a tick.

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Index — All Sets (click to open)

Set 1

02 May 2025
9:30 AM - 12:00 PM

Set 3

06 May 2025
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Set 2

02 May 2025
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Set 4

06 May 2025
2:30 PM - 5:00 PM

Part B (Machinist)

75 Questions • Answer Key

Q1 Part B (Machinist)

In general, a softer material will produce an indentation that is:

A. larger and deeper ✓

B. smaller and shallower

C. identical in all cases

D. unpredictable

Q2 Part B (Machinist)

Gaskets, seals and spacers are made using:

A. centre punch

B. hollow punch ✓

C. pin punch

D. prick punch

Q3 Part B (Machinist)

For what purpose are pins and clips used in engineering drawings?

A. To transfer dimensions and dividing lines into a number of equal parts

B. To draw horizontal lines, parallel lines and to guide/hold the set squares

C. To fasten the drawing sheet on to the drawing board firmly so that it does not shake ✓

D. To support the drawing paper/tracing paper for making drawings

Q4 Part B (Machinist)

Which of the following is an important safety measure during a power failure?

A. Using candles for lighting

B. Continuing to use equipment without verifying power status

C. Ensuring all machines and electrical equipment are turned off ✓

D. Ignoring alarm systems

Q5 Part B (Machinist)

A drawing instrument box is used to carry all _____ instruments.

A. drawing ✓

B. screening

C. drilling

D. casting

Q6 Part B (Machinist)

Which of the following drilling machines is designed for operations requiring mobility and is suitable for working on large or immovable workpieces?

A. Gang drilling machine

B. Sensitive drilling machine – Bench mounting

C. Portable drilling machine ✓

D. Deep hole drilling machine

Q7 Part B (Machinist)

If the basic size of the diameter of a shaft is 75 mm and variation limit of ± 0.02 mm is given, then its tolerance in mm is:

A. -0.02

B. -0.04

C. $+0.04$ ✓

D. $+0.02$

Q8 Part B (Machinist)

In Lathe Machine operation, the act of making plain ends of a job in their actual length is called _____.

A. knurling

B. chamfering

C. facing ✓

D. step turning



Q9 Part B (Machinist)

When using a multimeter to measure current, which of the following is correct?

- A. The multimeter is connected directly to the power source.
- B. The multimeter is connected in series with the load. ✓
- C. The multimeter is connected only across resistive components.
- D. The multimeter is connected in parallel with the load.

Q10 Part B (Machinist)

Threading is an operation of cutting _____ on the external cylindrical surface of the job.

- A. rectangular grooves
- B. helical grooves ✓
- C. circular grooves
- D. v-shaped grooves

Q11 Part B (Machinist)

The process of _____ involves using a cutting tool called a tap to sever internal threads in a hole.

- A. facing
- B. chamfering
- C. tapping ✓
- D. knurling

Q12 Part B (Machinist)

What does the additional value 1.25 in the designation M12 × 1.25 indicate in an ISO metric thread?

- A. The diameter of the thread
- B. The depth of the internal thread
- C. The angle of the thread form
- D. The fine pitch of the thread ✓

Q13 Part B (Machinist)

When the size of the shaft or male part of a job is more than hole or female part, the difference between the two will be known as _____.

- A. positive allowance
- B. either positive or negative allowance
- C. neither positive nor negative allowance
- D. negative allowance ✓

Q14 Part B (Machinist)

In a forward Vernier scale, the size of one Vernier scale division is:

- A. equal to 1 main scale division
- B. 1 mm
- C. larger than 1 main scale division
- D. smaller than 1 main scale division ✓

Q15 Part B (Machinist)

If the current flowing through a conductor is 5 A and the resistance of the conductor is 10 ohms, what will be the voltage across the conductor, according to Ohm's Law?

- A. 15 V
- B. 50 V ✓
- C. 5 V
- D. 10 V

Q16 Part B (Machinist)

Which hardness test uses a diamond pyramid-shaped indenter?

- A. Brinell
- B. Vickers ✓
- C. Shore
- D. Rockwell

Q17 Part B (Machinist)

When two pulleys are more than 8 metres apart, then which of the following belt drives is used for power transmission?

- A. Circular belt ✓
- B. Flat belt
- C. V-belt
- D. Light drive

Q18 Part B (Machinist)

A circuit consists of three resistors; 15 ohms, 10 ohms, and 20 ohms. The 15-ohm resistor is in series with the parallel combination of the 10-ohm and 20-ohm resistors. If a 24 V battery is applied across the circuit, what is the total current flowing through the circuit?

- A. 3.1 A
- B. 0.1 A
- C. 1.1 A ✓
- D. 2.1 A



Q19 Part B (Machinist)

What is the main working principle of a slotting machine?

- A. Both the tool and workpiece move vertically together.
- B. The tool moves vertically while the workpiece remains stationary. ✓
- C. The tool reciprocates horizontally while the workpiece moves.
- D. The workpiece reciprocates while the tool remains stationary.

Q20 Part B (Machinist)

Which of the following hand-operated drilling machines is used for drilling small diameter holes up to 6 mm?

- A. Electric hand drill
- B. Ratchet drilling machine
- C. Breast drilling machine
- D. Bevel gear type drilling machine ✓

Q21 Part B (Machinist)

Which part of a hand reamer is responsible for holding and driving the tool?

- A. Bevel lead
- B. Shank ✓
- C. Body
- D. Recess

Q22 Part B (Machinist)

What is a key advantage of using MOSFETs in electronic circuits compared to other types of transistors?

- A. High frequency response
- B. High input impedance and low power consumption ✓
- C. Ability to handle higher voltages and currents than BJTs
- D. Ability to amplify both AC and DC signals

Q23 Part B (Machinist)

What is the effect of an open structure on a grinding wheel?

- A. It removes less metal and produces less heat.
- B. It removes more metal but produces more heat.
- C. It removes less metal and produces more heat.
- D. It removes more metal and produces less heat. ✓

Q24 Part B (Machinist)

Which of the following types of thread is usually found on the machine spindle?

- A. Square thread ✓
- B. Buttress thread
- C. Unified standard thread
- D. Knuckle thread

Q25 Part B (Machinist)

The unit for specific gravity is ____.

- A. m/s^2
- B. g/cm^3
- C. kg/m^3
- D. no unit (dimensionless) ✓

Q26 Part B (Machinist)

Match the following terminologies in riveted joint with their corresponding meanings.

Column I Column II

Pitch (A) distance between centres of adjoining rivets in the same row (P)

Margin (B) distance between an edge of the plate and the nearest rivet-hole (Q)

Lap joint (C) plates to be connected overlap each other (R)

Row pitch (D) distance between the rows of rivets (S)

- A. A-S, B-R, C-Q, D-P
- B. A-P, B-R, C-Q, D-S
- C. A-S, B-Q, C-R, D-P ✓
- D. A-S, B-P, C-Q, D-R

Q27 Part B (Machinist)

Which of the following vices consists of a handle and a small collet chuck at one end?

- A. Hand vice
- B. Pin vice ✓
- C. Pipe vice
- D. Toolmaker's vice



Q28 Part B (Machinist)

The terms ____ and ____ refer to the greatest and smallest variance, respectively, specified on a fundamental size or nominal measurement.

- A. jig; fixture
- B. low limit; high limit
- C. limit; fit
- D. high limit; low limit ✓

Q29 Part B (Machinist)

What type of surfaces can a telescopic gauge measure?

- A. Only deep holes
- B. Both circular and irregular bores ✓
- C. Only circular bores
- D. Only external cylindrical surfaces

Q30 Part B (Machinist)

In a CNC lathe, the movement of the cutting tool is primarily controlled over which axes?

- A. X and Z ✓
- B. X and Y
- C. Z and W
- D. Y and Z

Q31 Part B (Machinist)

What is the advantage of giving heat treatment to a material?

- A. To decrease the melting point of the material
- B. To increase the weight of the material
- C. To change it from one element to another element
- D. To make surgical knives of sharp edges ✓

Q32 Part B (Machinist)

The term ____ refers to the limit of variation allowed on either side of the correct dimension to provide the job property of interchangeability (in mass production of part).

- A. tolerance ✓
- B. low limit
- C. fit
- D. high limit

Q33 Part B (Machinist)

What is single-riveted lap joint?

- A. Joint made with two row of rivets
- B. Joint made with three row of rivets
- C. Joint made with only one row of rivets ✓
- D. Joint made with four row of rivets

Q34 Part B (Machinist)

In a velocity-time graph, the negative slope represents ____.

- A. retardation ✓
- B. displacement
- C. acceleration
- D. distance

Q35 Part B (Machinist)

Which characteristic of cellulosic electrodes makes them unsuitable for high-strength steels?

- A. They produce high levels of hydrogen in the weld. ✓
- B. They operate only on a low-voltage DC supply.
- C. They have a very thin coating, causing rapid wear.
- D. They create excessive slag, leading to contamination.

Q36 Part B (Machinist)

Arrange the following steps in the correct order to draw an equilateral triangle with each side of 35 mm.

1. Join CA and CB.
2. Draw a line and mark AB 35 mm as the side of the triangle.
3. With radius AB and center A and B, draw arcs cutting at C.
4. ABC is the required triangle.

- A. 2, 3, 1, 4 ✓
- B. 1, 2, 4, 3
- C. 2, 1, 3, 4
- D. 3, 2, 1, 4

Q37 Part B (Machinist)

Which of the following is/are NOT a defining dimension of a taper?

- A. Length of the tapered section
- B. Included angle of the taper
- C. Diameters at the large and small ends
- D. Surface finish of the tapered section ✓



Q38 Part B (Machinist)

What is the primary function of the CNC controller/console in a CNC machine?

- A. It serves only as a display unit without controlling the motors.
- B. It directly moves the axes without processing any inputs.
- C. It processes manual inputs only and ignores G-code commands.
- D. It processes G-code and manual inputs to control axis motors. ✓

Q39 Part B (Machinist)

A/An _____ is provided to keep the micrometer fixed so that the reading can be done easily and without any difficulty.

- A. sleeve or barrel
- B. thimble
- C. lock nut ✓
- D. anvil

Q40 Part B (Machinist)

Which of the following types of pliers is used to shape loops in wires and to form curves in light metal strips?

- A. Flat nose pliers
- B. Round nose pliers ✓
- C. Slip-joint pliers
- D. End cutting pliers

Q41 Part B (Machinist)

Which of the following statements best describes an involute spline?

- A. It features parallel keyways both internally and externally for torque transmission.
- B. It is used for high-power transmission and is cut by using hobbing cutters. ✓
- C. It is commonly used in feed mechanisms of milling machines for low power.
- D. It enables the longitudinal sliding of gears without transmitting any torque.

Q42 Part B (Machinist)

What is the difference between a bevel gauge and a bevel protractor?

- A. There is no difference; both tools are the same.
- B. A bevel protractor is used for depth measurement, while a bevel gauge is used for height measurement.
- C. A bevel gauge is fixed, while a bevel protractor is adjustable.
- D. A bevel gauge is adjustable, while a bevel protractor provides precise angular measurements. ✓

Q43 Part B (Machinist)

When measuring the resistance of a resistor using an ohmmeter, what does a reading of zero resistance indicate?

- A. The resistor is functioning normally.
- B. The resistor is open-circuited.
- C. The resistor is short-circuited. ✓
- D. The ohmmeter is malfunctioning.

Q44 Part B (Machinist)

Why is a negative top rake commonly used when turning hard metals with carbide tools?

- A. It reduces tool wear and improves surface finish.
- B. It decreases cutting temperature and improves chip flow.
- C. It enhances cutting speed and reduces power consumption.
- D. It increases tool strength and withstands cutting forces better. ✓

Q45 Part B (Machinist)

Which of the following organisations is responsible for enforcing workplace safety regulations in India?

- A. World Health Organization (WHO)
- B. Food and Drug Administration (FDA)
- C. Directorate General of Factory Advice Service and Labour Institutes (DGFASLI) ✓
- D. Environmental Protection Agency (EPA)

Q46 Part B (Machinist)

What is the unit of specifying slip gauges?

- A. Millimetres ✓
- B. Kilograms
- C. Kilometres
- D. Newtons



Q47 Part B (Machinist)

Which of the following is a key characteristic of a low-pressure blowpipe/torch in welding?

- A. It requires an external pump to supply acetylene gas.
- B. It directly mixes acetylene and oxygen in equal proportions.
- C. It operates only with high-pressure acetylene cylinders.
- D. It uses high-pressure oxygen to create a vacuum for acetylene suction. ✓

Q48 Part B (Machinist)

Which M code is used in CNC milling to change the tool automatically?

- A. M08
- B. M06 ✓
- C. M30
- D. M19

Q49 Part B (Machinist)

What should you do to ensure your personal safety at work?

- A. Wear personal protective equipment. ✓
- B. Work in a hurry without checking equipment.
- C. Ignore warning signs and instructions.
- D. Take risks to finish tasks quickly.

Q50 Part B (Machinist)

The key difference between a marking gauge and a mortise gauge is:

- A. method of adjustment
- B. material of construction
- C. number of scribing pins ✓
- D. size of the tool

Q51 Part B (Machinist)

Which of the following files is used for filing narrow grooves and angles above 10°?

- A. Knife-edge file ✓
- B. Half round file
- C. Square file
- D. Triangular file

Q52 Part B (Machinist)

The type of workpieces that can be successfully held in a 4-jaw chuck, and might be difficult to hold in a 3-jaw chuck, are:

- A. only round workpieces
- B. only hexagonal workpieces
- C. only small diameter workpieces
- D. irregular or eccentric workpieces ✓

Q53 Part B (Machinist)

When selecting a sheet size for an original drawing, what should be the primary consideration?

- A. The standard size of the drawing office.
- B. The clarity and resolution required. ✓
- C. The orientation of the drawing (horizontal or vertical).
- D. The size of the reproduction.

Q54 Part B (Machinist)

Which of the following tools is NOT under the requirement to complete the Step Turning Process?

- A. Snipping tool
- B. Parting Tool
- C. Vernier Caliper ✓
- D. Turning tool

Q55 Part B (Machinist)

Toughness is the ability of a material to:

- A. resist elastic deformation
- B. resist scratches and indentation
- C. undergo plastic deformation without failure
- D. absorb energy before fracture ✓

Q56 Part B (Machinist)

Which of the following parts of a file is the part fitted to the tang for holding the file?

- A. Tip or Point
- B. Handle ✓
- C. Edge
- D. Tang



Q57 Part B (Machinist)

Where can tool offset values be inputted in a CNC lathe to compensate for differences between the actual and imagined tool position?

- A. Machine zero reference page
- B. Program parameter settings
- C. Work coordinate page
- D. Geometry page ✓

Q58 Part B (Machinist)

What do the X and Z coordinate systems represent in CNC lathe absolute programming?

- A. X represents cutting depth and Z represents tool feed rate.
- B. X represents the diameter and Z represents a distance from the finished end. ✓
- C. X represents the tool position and Z represents spindle speed.
- D. X represents the radius and Z represents a distance from the spindle centre.

Q59 Part B (Machinist)

According to BIS SP 46-2003, which of the following applications is correctly represented by a chain-thin line in engineering drawings?

- A. Center lines ✓
- B. Hidden edges
- C. Dimension lines
- D. Visible edges

Q60 Part B (Machinist)

Which of the following advantages of chain drive over belt drive is INCORRECT?

- A. It may be used for both long as well as short distances.
- B. It gives a high transmission efficiency.
- C. The production cost of chains is relatively high. ✓
- D. It gives less load on the shafts.

Q61 Part B (Machinist)

A circular hole of radius 3 cm is cut from a rectangular sheet of dimensions 12 cm × 10 cm. Find the remaining area.

(Take $\pi = 3.14$)

- A. 100 cm²
- B. 91.74 cm² ✓
- C. 95.86 cm²
- D. 75.74 cm²

Q62 Part B (Machinist)

Non-functional dimensions are _____.

- A. not essential for the function of the space or component ✓
- B. essential for the function of the space or component
- C. derived from the values of the related features of a drawing
- D. directly derived from the values given on a drawing

Q63 Part B (Machinist)

The purpose of providing a side relief angle of 1° to 2° on a grooving tool is to:

- A. reduce the cutting force
- B. increase the cutting speed
- C. prevent rubbing against the sides of the groove ✓
- D. improve the surface finish

Q64 Part B (Machinist)

In CNC turning, what is the recommended Length-to-Diameter (L/D) ratio range for using a tail stock, and up to what L/D ratio can it hold the workpiece with reduced cutting parameters?

- A. L/D less than 3; can hold up to L/D 5
- B. L/D between 6 and 12; can hold up to L/D 20
- C. L/D between 3 and 6; can hold up to L/D 10 ✓
- D. L/D between 1 and 3; can hold up to L/D 5

Q65 Part B (Machinist)

In conventional milling, also known as up-milling, how is the workpiece fed relative to the cutter's rotation?

- A. Perpendicular to the cutter's rotation
- B. At an angle to the cutter's rotation
- C. Opposite to the cutter's rotation ✓
- D. In the same direction as the cutter's rotation



Q66 Part B (Machinist)

In a lead-acid battery, what is the chemical composition of the material used for the positive plate during discharge?

- A. Sulphuric acid (H_2SO_4)
- B. Lead (Pb)
- C. Lead dioxide (PbO_2)
- D. Lead sulfate (PbSO_4)

Q67 Part B (Machinist)

What is the primary reason for electrical injuries when a person comes in contact with electrical equipment?

- A. Electrical equipment is not properly grounded.
- B. Current flows through the body causing harm.
- C. Devices are used for too long.
- D. Electrical devices are too powerful.

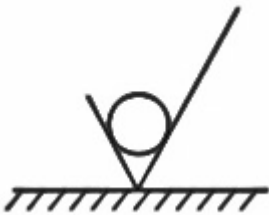
Q68 Part B (Machinist)

An electronic digital caliper displays the measurement on a _____.

- A. liquid crystal display screen
- B. dial gauge
- C. Vernier scale
- D. mechanical counter

Q72 Part B (Machinist)

What does the given surface finish symbol represent?



- A. Machining must be performed to remove material.
- B. Special machining characteristics must be specified.
- C. Material removal is not allowed on this surface.
- D. The surface should be finished using grinding only.

Q69 Part B (Machinist)

What is the purpose of an emergency evacuation plan?

- A. To ensure safe and orderly evacuation during emergencies
- B. To avoid safety drills
- C. To increase productivity
- D. To allow workers to leave early

Q70 Part B (Machinist)

In thread cutting, 'BSW' stands for _____.

- A. British Standard Whitworth
- B. British Standard Weight
- C. Bharath Standard Whitworth
- D. British Stationary Whitworth

Q71 Part B (Machinist)

Why is it important for every person to follow safety procedures in the workplace?

- A. To increase overall production efficiency
- B. To minimise risks and avoid accidents
- C. To reduce operational costs significantly
- D. To limit the need for frequent supervision



Q73 Part B (Machinist)

$$\left(\frac{3}{8}\right) + \left(\frac{5}{12}\right)$$

A. $\frac{17}{24}$

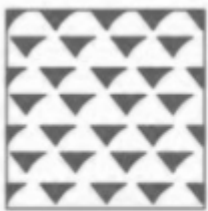
B. $\frac{19}{24}$ ✓

C. $\frac{8}{20}$

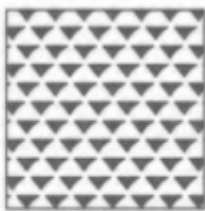
D. $\frac{7}{12}$

Q74 Part B (Machinist)

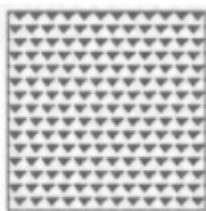
Identify the rough file grade from the figures given below.



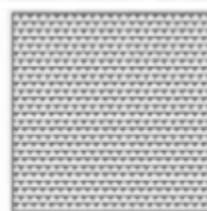
(a)



(b)



(c)



(d)

A. (b)

B. (d)

C. (c)

D. (a) ✓

Q75 Part B (Machinist)

$$\cos \theta$$

A. $\frac{3}{5}$

B. $\frac{4}{5}$ ✓

C. $\frac{5}{4}$

D. $\frac{3}{4}$



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Part B (Machinist)

75 Questions • Answer Key

Q1 Part B (Machinist)

What is the significant limitation of using a taper-turning attachment on a lathe?

- A. It can only be used for internal taper-turning operations.
- B. It is limited to turning of slow taper angles only. ✓
- C. It cannot be used for cutting threads on taper portions.
- D. It is not suitable for producing duplicate tapers.

Q2 Part B (Machinist)

Which of the following is the Outer operation of the lathe?

- A. Boring
- B. Tapping
- C. Drilling
- D. Facing ✓

Q3 Part B (Machinist)

What should be done to ensure proper alignment of the reamer before starting the reaming operation?

- A. Place the reamer vertically and check with a try square. ✓
- B. Fix the tap wrench and apply downward pressure.
- C. Turn the tap wrench clockwise with full pressure.
- D. Apply equal pressure without checking the alignment.

Q4 Part B (Machinist)

Which of the following types of wooden mallets are used for hollowing panel beatings?

- A. Standard wooden mallets
- B. End-faked mallets
- C. Side-faked mallets
- D. Bossing mallets ✓

Q5 Part B (Machinist)

What force (effort) will be required to push a load, initially at rest, of mass 500 g, so that at a distance of 20 m, its final velocity is 20 m/sec [Assume that there is no friction and 'g' = 10 m/s²].

- A. 5 J
- B. 10 N
- C. 5 N ✓
- D. 10 J

Q6 Part B (Machinist)

Which of the following is the key difference between a fuse and a circuit breaker?

- A. A fuse can be reset after tripping, while a circuit breaker must be replaced.
- B. A fuse is used for high-voltage circuits, while a circuit breaker is used for low-voltage circuits.
- C. A fuse is a mechanical device, while a circuit breaker is an electronic device.
- D. A fuse is a one-time-use device, while a circuit breaker can be reset and reused. ✓

Q7 Part B (Machinist)

In engineering drawing, what is defined as the path of a moving point with no thickness?

- A. Angle
- B. Curve
- C. Point
- D. Line ✓

Q8 Part B (Machinist)

Which tool can be used along with a radius gauge to check curvature of a workpiece for better accuracy?

- A. Bevel protractor
- B. Feeler gauge ✓
- C. Surface plate
- D. Micrometer



Q9 Part B (Machinist)

Which of the following uses of wire gauge is INCORRECT?

- A. It measures the diameter of a wire.
- B. It does not help determine how much current a wire can carry. ✓
- C. Using the wrong wire gauge can damage appliances and electronic devices.
- D. It is used in electrical installations, welding and other applications.

Q10 Part B (Machinist)

If the coefficient of linear expansion of a material is $2 \times 10^{-5} \text{ } ^\circ\text{C}^{-1}$, what does it mean?

- A. The material expands by 2×10^{-5} times its original area per degree Celsius
- B. The material expands by 2×10^{-5} times its original volume per degree Celsius
- C. The material expands by 2×10^{-5} times its original length per degree Celsius ✓
- D. The material always increases by 2×10^{-5} kg when temperature is increased by 1°C

Q11 Part B (Machinist) HINDI

CNC मशीन में फीडबैक सिस्टम का प्राथमिक कार्य क्या है?

- A. यह ट्रांसड्यूसर और सेंसरों से स्वतंत्र रूप से प्रचालित होता है।
- B. यह बाहरी संकेतों के बिना कटिंग टूल के संचलन को नियंत्रित करता है।
- C. यह कटिंग टूल की स्थिति और चाल को मापता है और उसे मॉनीटर करता है। ✓
- D. यह वास्तविक स्थिति से मेल खाने के लिए निर्देश संकेतों को समायोजित करता है।

Q12 Part B (Machinist)

In screw gauge, the term 'lead of a screw' is defined by the:

- A. material the screw is made of
- B. diameter of the screw
- C. number of threads on the screw
- D. distance the screw moves axially with one complete turn ✓

Q13 Part B (Machinist)

A _____ chisel is used for making an oil groove in a bearing and for cutting slits at corners.

- A. side cut
- B. flat
- C. round nose ✓
- D. cross cut

Q14 Part B (Machinist)

Identify the correct combination of a rivet parts.

- A. Hardie hole, chipping block, pritchel hole
- B. Head, cylindrical body of shank, a slightly tapered tail ✓
- C. Anvil, stock, top fuller
- D. Bottom fuller, shank, horn

Q15 Part B (Machinist)

What is the primary function of the base in a milling machine?

- A. Holds the worktable and feed
- B. Houses the motor and drive
- C. Serves as a foundation for parts ✓
- D. Supports the spindle and tool

Q16 Part B (Machinist)

The property of _____ is important, while repairing a machine, if a broken part is to be replaced, we need a new part. Only if the new part is made of accurately similar measurement, it can be fitted, otherwise not.

- A. allowance
- B. interchangeability ✓
- C. interference
- D. tolerance

Q17 Part B (Machinist)

Which of the following cutting parameters most significantly affects tool life?

- A. Feed rate and depth of cut affect tool wear equally, more than surface speed.
- B. Depth of cut affects tool wear more than surface speed and feed rate.
- C. Surface speed affects tool wear more than feed rate and depth of cut. ✓
- D. Feed rate affects tool wear more than surface speed and depth of cut.



Q18 Part B (Machinist) HINDI

CNC टर्निंग सेंटर में टरेट (turret) का प्राथमिक कार्य क्या है?

- A. कई औजारों को सक्रिय स्थिति में माउंट करना और घुमाना ✓
- B. मशीनिंग प्रक्रिया के लिए स्थायी आधार प्रदान करना
- C. मशीनिंग के दौरान कार्यवस्तु की विमाओं को मापना
- D. मशीनिंग के दौरान कार्यवस्तु को पकड़ना और घुमाना

Q19 Part B (Machinist)

A triple-riveted butt joint with two cover-straps is used for the _____.

- A. radial joint
- B. circumferential joint
- C. longitudinal joint ✓
- D. angle joint

Q20 Part B (Machinist)

Tapping is the operation of _____.

- A. cutting internal threads in a hole ✓
- B. machining flat surfaces on work pieces
- C. providing tapered entrance to the hole
- D. sizing and improving the geometry and finish of a previously drilled hole

Q21 Part B (Machinist)

Which of the following punch marks is used for the correct location and seating of the divider point?

- A. Centre punch marks of 30°
- B. Centre punch marks of 60°
- C. Prick punch marks of 120°
- D. Prick punch marks of 30° ✓

Q22 Part B (Machinist)

Why should the blade of a bevel gauge be wiped clean after use?

- A. To make it look new in appearance
- B. To ensure it remains flexible to use
- C. To prevent rust and maintain accuracy ✓
- D. To make it a multipurpose tool/gauge

Q23 Part B (Machinist)

How is the stroke length of the slotting machine adjusted in the driving mechanism?

- A. By altering the weight balance on the slotted link
- B. By varying the speed of the motor connected to the gear
- C. By adjusting the length of the connecting link
- D. By changing the position of the sliding block on the slotted link ✓

Q24 Part B (Machinist)

What is the coating factor range for medium-coated electrodes?

- A. 1.25 to 1.3
- B. 1.4 to 1.5 ✓
- C. 1.1 to 1.2
- D. 1.6 to 2.2

Q25 Part B (Machinist)

_____ are used to hold previously drilled or bored holes for outer surface machining.

- A. Lathe carriers
- B. Carriages
- C. Rests
- D. Lathe mandrels ✓

Q26 Part B (Machinist)

What is the chemical effect that occurs in a battery during the charging process of a Lead Acid battery?

- A. Lead reacts with sulphur to form lead sulphate
- B. Water dissociation into hydrogen and oxygen
- C. Lead sulphate decomposes into lead and sulphuric acid ✓
- D. Sulphuric acid dissociates into hydrogen and sulphate ions

Q27 Part B (Machinist)

What is the primary advantage of rutile electrodes in welding?

- A. They provide good weld shape and easy slag removal. ✓
- B. They are suitable for welding high-carbon steels.
- C. They produce deep penetration for high-strength welding.
- D. They generate minimal heat during the welding process.



Q28 Part B (Machinist)

Which of the following shafts is an example of a machine shaft?

- A. Line shaft
- B. Overhead shaft
- C. Crank shaft
- D. Counter shaft

**Q29 Part B (Machinist)**

What is the main reason copper turns green over time?

- A. Hydrogen embrittlement
- B. Formation of an oxide layer
- C. Absorption of nitrogen from the air
- D. Reaction with UV light

**Q30 Part B (Machinist)**

Match the correct length and breadth of the Trimmed sizes of sheets.

Designation	Trimmed size
A. A0	P. 297 × 420
B. A1	Q. 420 × 594
C. A2	R. 594 × 841
D. A3	S. 841 × 1189

- A. A - R, B - S, C - Q, D - P
- B. A - P, B - R, C - Q, D - S
- C. A - S, B - R, C - P, D - Q
- D. A - S, B - R, C - Q, D - P

**Q31 Part B (Machinist)**

A device operates at 240 V and consumes 480 W of power. What is the current flowing through the device?

- A. 2 A
- B. 1 A
- C. 1.5 A
- D. 2.5 A

**Q32 Part B (Machinist)**

Which of the following is NOT a correct practice when using a telescopic gauge?

- A. Using a micrometer to measure the gauge's expanded size
- B. Locking the gauge before removing it from the bore
- C. Measuring at multiple points for accuracy
- D. Measuring a rough or dirty bore without cleaning it

**Q33 Part B (Machinist)**

Which of the following non-metals is naturally black?

- A. Alumina
- B. Graphite
- C. Silicon
- D. Quartz

**Q34 Part B (Machinist)**

What is waste?

- A. Natural resources for living organisms
- B. Valuable substances for agriculture
- C. Useful materials for industries
- D. Unwanted or unusable materials

**Q35 Part B (Machinist)**

The 'merit number' in toughness measurement is used for:

- A. determining a material's density
- B. finding the modulus of rigidity
- C. comparing different materials
- D. measuring a material's elasticity

**Q36 Part B (Machinist)**

Which of the following is a key advantage of using Thyristors in power control applications?

- A. High frequency switching
- B. High efficiency and low power loss
- C. Small size and low cost
- D. Low voltage handling capabilities



Q37 Part B (Machinist)

Which of the following is an effective way to minimise the risk of collisions in CNC machining centres?

- A. Increasing spindle speed beyond recommended limits
- B. Using low-cost tools without monitoring the process
- C. Reducing manual data entry and human intervention ✓
- D. Ignoring machine alignment after minor collisions

Q38 Part B (Machinist)

Why is it important to follow proper disposal procedures for industrial waste?

- A. To allow waste to decompose anywhere
- B. To reduce the number of trash bins needed
- C. To save time and effort in sorting waste
- D. To comply with environmental regulations and reduce pollution ✓

Q39 Part B (Machinist)

Which of the following belts is acid proof and water proof and is NOT affected by animal oils or alkalies?

- A. Cotton or fabric belts
- B. Rubber belts
- C. Balata belts ✓
- D. Leather belts

Q40 Part B (Machinist)

Which of the following statements correctly describes the placement and purpose of orientation marks on a drawing sheet?

1. Orientation marks are placed at two opposite corners of the drawing sheet to indicate the correct orientation on the drawing board.
2. Orientation marks consist of arrow heads placed across the frame, with one at the shorter side and one at the longer side, coinciding with the centering marks.
3. One of the orientation marks always points towards the draughtsman, indicating the direction in which the drawing sheet should be placed.
4. Orientation marks are used to mark the midpoint of each side of the drawing sheet for accurate centering.

- A. 1, 2, and 3 only
- B. 1 and 4 only
- C. 2 and 3 only ✓
- D. 1, 2, and 4 only

Q41 Part B (Machinist)

Why is the drilling machine considered an important machine tool in a workshop?

- A. It produces surface finishes on metal parts at high speed.
- B. It primarily sharpens cutting tools for various machines.
- C. It can perform several operations and originates holes efficiently. ✓
- D. It is mainly used to shape metal sheets into desired forms.

Q42 Part B (Machinist) HINDI

2-अक्ष CNC मशीन में द्रवचालित तंत्र का प्राथमिक कार्य क्या है?

- A. कार्यवस्तु का चकन (Chucking) और उसे अपने स्थान पर पकड़े रखना ✓
- B. ऑपरेशन के दौरान कर्तन औजार का शीतलन
- C. मशीनिंग के लिए स्पिंडल चाल को नियंत्रित करना
- D. निघर्षण कम करने के लिए मशीन घटकों का स्नेहन

Q43 Part B (Machinist)

Which of the following is a fundamental unit?

- A. newton
- B. metre ✓
- C. pascal
- D. watt

Q44 Part B (Machinist)

In engineering drawing (lettering and numbering), a single stroke means that the _____.

- A. thickness of the line of the letter or number is obtained in one stroke of the pencil ✓
- B. thickness of the line of the letter or number is obtained in three strokes of the pencil
- C. thickness of the line of the letter or number is obtained in no strokes of the pencil
- D. thickness of the line of the letter or number is obtained in two strokes of the pencil

Q45 Part B (Machinist) HINDI

CNC मशीन में, Z-अक्ष के अनुदिश स्पिंडल का संचलन मुख्य रूप से किसके लिए उत्तरदायी होता है?

- A. कर्तन प्रचालनों के लिए टूल को ऊपर उठाने या नीचे करने के लिए ✓
- B. ऑपरटर के सापेक्ष टूल को आगे और पीछे ले जाने के लिए
- C. वर्कपीस को निर्देशांक प्रणाली के साथ संरेखित करने के लिए उसे घुमाने के लिए
- D. XY तल में वर्कपीस को बाएं और दाएं स्थानांतरित करने के लिए



Q46 Part B (Machinist)

If a machine has an efficiency of 80%, it means:

- A. the machine produces more output than input
- B. the machine has a velocity ratio and mechanical advantage both equal to 80
- C. the machine does not have any loss in input energy
- D. the machine loses 20% of the input ✓

Q47 Part B (Machinist)

When did India implement the Hazardous Wastes (Management and Handling) Rules to regulate the disposal and handling of hazardous waste?

- A. 1987
- B. 2000
- C. 1989 ✓
- D. 1982

Q48 Part B (Machinist)

What is the primary principle behind the generation of electrical energy in a piezoelectric device?

- A. Conversion of thermal energy into electrical energy
- B. Conversion of chemical energy into electrical energy
- C. Conversion of light energy into electrical energy
- D. Conversion of mechanical stress into electrical energy ✓

Q49 Part B (Machinist)

What is a possible cause of tool breakage in CNC turning machine tools?

- A. Using a tool with a lower spindle speed than required
- B. Excessive cutting depth beyond the allowable limit ✓
- C. Proper selection of tool material for rough machining
- D. Applying coolant at high pressure continuously

Q50 Part B (Machinist)

Which of the following types of wooden mallets are used for general purpose work such as flattening and bending?

- A. Bossing mallets
- B. Side-faked mallets
- C. Standard wooden mallets ✓
- D. End-faked mallets

Q51 Part B (Machinist)

When the size of the hole or female part of a job is more than shaft or male part, the difference between the two will be known as _____.

- A. neither positive nor negative allowance
- B. either positive or negative allowance
- C. positive allowance ✓
- D. negative allowance

Q52 Part B (Machinist)

What does the 'Grade' of a grinding wheel indicate?

- A. The grit size and type of abrasive
- B. The wheel's speed and power rating
- C. The type of bonding material used
- D. The strength of the bond and wheel hardness ✓

Q53 Part B (Machinist)

The digital interface of an electronic digital caliper improves the reliability of measurement records by:

- A. eliminating the need for manual data entry
- B. allowing direct connection to a statistical control system ✓
- C. providing secured storage for a series of readings
- D. enabling the instrument to be used as a limit gauge

Q54 Part B (Machinist)

When drawing a curved line of a specific length in an engineering drawing, which tool is most appropriate for ensuring accuracy?

- A. Protractor
- B. Straightedge
- C. French Curve ✓
- D. Compass

Q55 Part B (Machinist)

Pencils are rated in engineering drawings based on the _____.

- A. hardness or softness of the lead ✓
- B. colour of the lead
- C. durability of the lead
- D. shape of the lead



Q56 Part B (Machinist)

Which of the following punches is used to make deeper witness marks on scribed lines and make it easier for the drill to start correctly?

- A. Solid punch
- B. Centre punch ☒
- C. Pin punch
- D. Prick punch

Q57 Part B (Machinist)

Which of the following parts of a hammer-head is used for shaping and forming work like riveting and bending?

- A. Face
- B. Eyehole
- C. Pein ☒
- D. Cheek

Q58 Part B (Machinist)

The principle behind the vernier scale in a vernier caliper is:

- A. subtracting the vernier scale reading from the main scale reading
- B. dividing a known length into a certain number of equal divisions
- C. adding the main scale and auxiliary scale readings ☒
- D. multiplying the main scale reading

Q59 Part B (Machinist)

In multiple start threads, the relation between lead and pitch is given by which of the following?

- A. There is no relation between them.
- B. Lead is equal to the pitch.
- C. Lead is always greater than the pitch. ☒
- D. Lead is always less than the pitch.

Q60 Part B (Machinist)

Which method is most suitable for producing small lengths of taper during mass production on a lathe?

- A. Employing a taper-turning attachment for consistent feed
- B. Using a form tool set at right angles to the work axis ☒
- C. Using a compound rest set at the desired angle
- D. Offsetting the tailstock to achieve a taper

Q61 Part B (Machinist)

In the limit system, the distinction between allowance and deviation is:

- A. allowance is used for single parts, while deviation is used for assemblies
- B. allowance is the difference between the maximum material limits of the mating parts, while deviation is the difference between a size and the corresponding basic size ☒
- C. allowance is always positive, while deviation can be positive or negative
- D. allowance is the difference between a size and the corresponding basic size, while deviation is the difference between the maximum material limits of the mating parts

Q62 Part B (Machinist)

Which of the following statements is/are correct?

Statement I - The annealing process uses heat to reduce the hardness and increase the ductility and toughness of various steels, cast iron, and alloys.

Statement II - Quenching is a rapid cooling process that alters specific properties of materials by manipulating the cooling rate.

- A. Statement (I) is correct but Statement (II) is incorrect.
- B. Statement (I) and (II) both are correct. ☒
- C. Statement (I) is incorrect but Statement (II) is correct.
- D. Statement (I) and (II) both are incorrect.

Q63 Part B (Machinist)

When the size of a shaft is less and the size of the hole is more, the difference between the two is called _____.

- A. deviation
- B. clearance ☒
- C. tolerance
- D. interference

Q64 Part B (Machinist)

The included angle of the tip of a standard lathe centre is _____.

- A. 60° ☒
- B. 30°
- C. 90°
- D. 45°



Q65 Part B (Machinist)

What does an optical pyrometer measure?

- A. The relative density of liquids
- B. The temperature of the surface ✓
- C. The volume of liquids
- D. The pressure of gases

Q66 Part B (Machinist)

What is the blade length of the T1 'T' square, as per IS:1360-1989?

- A. 500 mm
- B. 1500 mm
- C. 700 mm
- D. 1000 mm ✓

Q67 Part B (Machinist)

Which of the following is an example of a p-type semiconductor?

- A. Silicon doped with phosphorus
- B. Silicon doped with arsenic
- C. Silicon doped with boron ✓
- D. Germanium doped with phosphorus

Q68 Part B (Machinist)

Key way on a shaft is made with a _____ chisel.

- A. side cut
- B. cross cut
- C. flat ✓
- D. round nose

Q69 Part B (Machinist)

_____ is a metal removal process that employs an abrasive grinding wheel (GW) whose cutting elements are grains of abrasive materials of high hardness and high refractoriness.

- A. Taper turning
- B. Step turning
- C. Boring
- D. Grinding ✓

Q70 Part B (Machinist)

Which of the following statements is correct about a protractor?

Statements:

1. A protractor can be used to measure angles from both sides.
2. A protractor is typically made of a rigid metal material.

- A. Neither statement is true
- B. Only statement 2 is true
- C. Only statement 1 is true ✓
- D. Both statements are true

Q71 Part B (Machinist)

Which of the following is an advantage of chain drives over belt drives?

- A. The production cost of chains is relatively high.
- B. The chain drive needs accurate mounting and careful maintenance, particularly lubrication and slack adjustment.
- C. The chain drive has velocity fluctuations especially when unduly stretched.
- D. It gives a high transmission efficiency. ✓

Q72 Part B (Machinist) HINDI

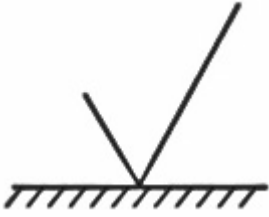
स्लॉट मशीन पर धातु के चिप्स को साफ करने से पूर्व क्या किया जाना चाहिए?

- A. मशीन को रोकने से पहले सहायता लें।
- B. मशीन चालू करने से पहले क्लैम्प (clamps) को समायोजित करें।
- C. नुकीले किनारों को नंगे हाथों से मजबूती से पकड़ें।
- D. सफाई करने से पहले मशीन को पूरी तरह से स्टॉप कर दें। ✓



Q73 Part B (Machinist)

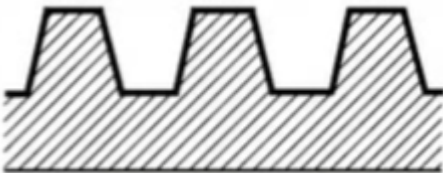
What does the surface finish symbol shown in the given figure represent?



- A. The surface requires a specific finishing process
- B. A general machining indication without roughness details ☒
- C. Material removal is strictly prohibited
- D. The surface must be left without machining

Q74 Part B (Machinist)

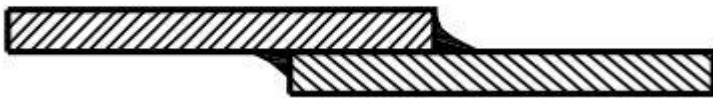
Identify the type of thread given below.



- A. Acme thread ☒
- B. Knuckle thread
- C. V-thread
- D. Square thread

Q75 Part B (Machinist)

Identify the type of brazed joint shown below.



- A. Joggle Lap
- B. Simple Lap ☒
- C. Strapped Lap
- D. Butted Flange



Part B (Machinist)

75 Questions • Answer Key

Q1 Part B (Machinist)

The SI unit of 'ultimate stress' is _____.

- A. pascal (Pa) ✓
- B. newton (N)
- C. newton per meter (N/m)
- D. joule per square meter (J/m²)

Q2 Part B (Machinist)

Why do cars have treaded tyres?

- A. To increase friction and grip on the road ✓
- B. To reduce weight
- C. To decrease friction
- D. To increase speed

Q3 Part B (Machinist)

Match the following columns.

Column I Column II

Hinge (A) Reinforcing the downward projecting sand mass (P)

Welding (B) Finishing flat surfaces and joints (Q)

Trowels (C) Permanent joint (R)

Gaggers (D) Movable joint (S)

- A. A-R, B-S, C-Q, D-P
- B. A-S, B-R, C-P, D-Q
- C. A-S, B-R, C-Q, D-P ✓
- D. A-S, B-P, C-Q, D-R

Q4 Part B (Machinist)

A rectangular floor measuring 10 m × 8 m is to be tiled. If each tile covers 0.25 m², how many tiles are needed?

- A. 200
- B. 300
- C. 320 ✓
- D. 250

Q5 Part B (Machinist)

What is the term used to describe programs that distinguish between uppercase and lowercase letters, treating "yes" and "YES" as different inputs?

- A. Case-insensitive
- B. Numerical
- C. Case-sensitive ✓
- D. Alphabetical

Q6 Part B (Machinist)

What is the primary purpose of shielding in electrical cables?

- A. To increase the voltage capacity of the cable
- B. To increase the current-carrying capacity of the cable
- C. To protect the cable from external electromagnetic interference ✓
- D. To prevent heat loss from the cable

Q7 Part B (Machinist)

What is the primary purpose of employing a quick return mechanism in a slotting machine?

- A. To increase the cutting force of the ram
- B. To extend the duration of the cutting stroke
- C. To slow down the machine's overall operation
- D. To reduce the idle time during the return stroke ✓

Q8 Part B (Machinist)

What is the orientation of the slope for a positive top rake angle on a cutting tool?

- A. From the top of the tool towards the bottom of the cutting edge
- B. From the front of the cutting edge towards the back of the tool ✓
- C. From the bottom of the cutting edge towards the top of the tool
- D. From the back of the tool towards the front of the cutting edge



Q9 Part B (Machinist)

Which of the following is a key electrical safety tip in a workshop?

- A. Operate machines with wet hands
- B. Ignore frayed wires if the device is still working
- C. Use water to clean electrical panels
- D. Ensure electrical equipment is properly grounded ✓

Q10 Part B (Machinist)

The main drawback of using a 4-jaw chuck compared to a 3-jaw chuck is:

- A. it provides a less secure grip
- B. it cannot grip work on the inside surface
- C. it requires more setting time ✓
- D. it can only hold regular shaped jobs

Q11 Part B (Machinist)

Which option shows the correct answer when 27°C is converted to the kelvin scale?

- A. - 300 K
- B. 246 K
- C. 300 K ✓
- D. - 246 K

Q12 Part B (Machinist)

Which of the following is an advantage of using a recirculating ball screw system in CNC machine tools?

- A. It operates with increased resistance and slow traverse speed.
- B. It has high friction and frequent wear.
- C. It requires high drive power and causes a temperature rise.
- D. It eliminates the stick-slip effect and has high efficiency. ✓

Q13 Part B (Machinist)

Which material is commonly used for hand reamers made as a one-piece construction?

- A. Cast iron
- B. Mild steel
- C. High-carbon steel
- D. High-speed steel ✓

Q14 Part B (Machinist)

In riveted joint, diameter (d) for a given thickness of the plates is given by _____, where t = thickness of plates in mm.

- A. $d = 6 (t)^{1/2}$ ✓
- B. $d = 3.5 (t)^{1/2}$
- C. $d = 15 (t)^{1/2}$
- D. $d = 12 (t)^{1/2}$

Q15 Part B (Machinist)

Which of the following is NOT a component of twist drill?

- A. Flutes
- B. Shank
- C. Body
- D. Neck ✓

Q16 Part B (Machinist)

Which of the following is a function of the top section of a steady rest in a CNC lathe?

- A. It swings away from the bottom portion for easy workpiece removal. ✓
- B. It provides axial support similar to a tailstock during turning.
- C. It adjusts automatically to compensate for machining forces.
- D. It locks the workpiece in place to prevent rotational movement.

Q17 Part B (Machinist)

What type of surfaces can be checked using a radius gauge?

- A. Both internal and external curved surfaces ✓
- B. Only flat surfaces
- C. Only internal curved surfaces
- D. Only external curved surfaces

Q18 Part B (Machinist)

_____ recommend(s) 20 mm wide margins for sheet sizes AO and A1 in engineering drawings.

- A. Borders and frames: SP: 46 (2003) ✓
- B. Geographic coordinate systems
- C. Custom grids
- D. Grid reference system



Q19 Part B (Machinist)

Which of the following care and maintenance of a marking table is INCORRECT?

- A. The marking table should be protected from damage.
- B. The marking table should be protected from rust.
- C. After use, the marking table should be cleaned with a soft cloth.
- D. The surface of the marking table should not be given a thin layer of oil. ✓

Q20 Part B (Machinist)

Which of the following is an advantage of taper turning by swiveling the compound slide?

- A. Allows taper length beyond the top slide movement
- B. Suitable for producing threads on the taper portion
- C. Enables both internal and external tapers to be produced ✓
- D. Allows automatic feed during operation

Q21 Part B (Machinist)

What is the purpose of axes motors in a CNC machine?

- A. To provide lubrication to moving parts
- B. To drive each axis of the machine separately ✓
- C. To operate the cooling system of the machine
- D. To control the spindle speed of the machine

Q22 Part B (Machinist)

In a logic circuit, three SPST (Single Pole Single Throw) switches are used to implement a logic gate. The switches are connected in series. What is the output of the circuit if all switches are closed?

- A. Undefined
- B. 1 ✓
- C. The output will depend on the type of gate used
- D. 0

Q23 Part B (Machinist)

Which hardness test uses a hardened steel ball as an indenter?

- A. Knoop Hardness Test
- B. Vickers Hardness Test
- C. Brinell Hardness Test ✓
- D. Rockwell Hardness Test

Q24 Part B (Machinist)

Which of the following flat belt drives is provided to obtain high velocity ratio and when the required belt tension cannot be obtained by other means?

- A. Crossed or twist belt drive
- B. Belt drive with idler pulleys ✓
- C. Quarter turn belt drive
- D. Open belt drive

Q25 Part B (Machinist)

Which of the following instruments is used to draw mutually perpendicular lines over a plane surface?

- A. Bevel square
- B. Try Square ✓
- C. Straight edge
- D. Folding rule

Q26 Part B (Machinist)

_____ is the line of zero deviation and represents the basic size.

- A. Zero line
- B. Actual size
- C. Nominal size ✓
- D. Tolerable size

Q27 Part B (Machinist)

The accuracy of measurement by a try square is about:

- A. 0.02 mm per 10 mm length
- B. 0.001 mm per 10 mm length
- C. 0.004 mm per 10 mm length
- D. 0.002 mm per 10 mm length ✓

Q28 Part B (Machinist)

Which of the following is a primary difference between a primary and a secondary electrochemical cell?

- A. A secondary cell produces more energy than a primary cell.
- B. A primary cell can be recharged, while a secondary cell cannot be recharged.
- C. A primary cell cannot be recharged, while a secondary cell can be recharged. ✓
- D. There is no difference between primary and secondary cells.



Q29 Part B (Machinist)

Which of the following statements is/are true about Non-Functional Dimensions (NF) in engineering drawing?

Statement 1: Non-functional Dimensions are shown without limits, as they do not affect the functionality of the component or space.

Statement 2: Non-Functional Dimensions are typically used for reference purposes only, and do not impact the assembly or performance of the component or space.

A. Only statement 2 is true



B. Only statement 1 is true

C. Both statements are true

D. Neither statement is true

Q30 Part B (Machinist)

Which of the following is NOT a valid method for setting the tailstock offset when performing taper turning on a lathe?

A. Using a feeler gauge with a cross-slide graduated collar

B. Using a dial test indicator for precise measurement

C. Adjusting the tool holder angle manually



D. Using the graduated scale on the tailstock base

Q31 Part B (Machinist)

Which of the following is INCORRECT about line standard?

A. More accurate due to line thickness



B. Subject to parallax error

C. Quick measurements over a wide range

D. Used to measure the distance between two engraved lines

Q32 Part B (Machinist)

_____ work best for cutting soft materials like wood and plastic.

A. Bi-metal blades

B. Coarse-toothed blades



C. Fine-toothed blades

D. High-carbon steel blades

Q33 Part B (Machinist)

Heavy belt drives are used to transmit large powers at belt speeds _____.

A. between 15 m/s and 22 m/s

B. above 22 m/s



C. up to about 10 m/s

D. between 10 m/s and 15 m/s

Q34 Part B (Machinist)

Force fit will give _____ type of allowance.

A. positive

B. negative



C. neither positive nor negative

D. either positive or negative

Q35 Part B (Machinist)

Identify the roughness grade number for a roughness value of 0.025 μm .

A. N1



B. N4

C. N3

D. N2

Q36 Part B (Machinist)

Which of the following is a major risk associated with fuel spillage?

A. Fire hazards and environmental contamination



B. Better lubrication for workshop floors

C. Increased productivity

D. Reduced need for ventilation

Q37 Part B (Machinist)

Why is acetylene gas not stored in its gaseous form under pressure above 1 kg/cm² in cylinders?

A. Because it loses its flammability and becomes ineffective

B. Because it reacts with the cylinder's material and causes corrosion

C. Because it becomes unstable and may explode under high pressure



D. Because it condenses into a liquid and reduces efficiency



Q38 Part B (Machinist)

What is the primary reason for the heating effect in a conductor when an electric current passes through it?

- A. The electric field in the conductor causes heat generation.
- B. The movement of electrons causes heat generation. ✓
- C. The conductor absorbs heat from the surrounding environment.
- D. The movement of protons causes heat generation.

Q39 Part B (Machinist)

Which of the following is NOT a component of the Vernier caliper?

- A. Locking screw
- B. Vernier scale
- C. Anvil ✓
- D. Main scale

Q40 Part B (Machinist)

When one side of a job with parallel diameter is cut turned completely or partially to reduce its diameter by the lathe machine, it is called _____.

- A. knurling
- B. chamfering
- C. taper turning
- D. turning ✓

Q41 Part B (Machinist)

What is the speed ratio of the forward stroke to the return stroke in a slotting machine's quick return mechanism?

- A. 2 : 1
- B. 1 : 1
- C. 3 : 2
- D. 2 : 3 ✓

Q42 Part B (Machinist)

Which of the following conversions are correct?

- A. 1 L = 1000 dm³ and 1 mL = 1000 cm³
- B. 1000 L = 1 dm³ and 1000 mL = 1 cm³
- C. 1 L = 1 dm³ and 1 mL = 1 cm³ ✓
- D. 1000 L = 1 dm³ and 1 mL = 1000 cm³

Q43 Part B (Machinist)

A statement and conclusion for pictorial drawing are given below. Determine the logical relationship between them.

Statement: Pictorial drawings are three-dimensional and provide a visual representation of an object.

Conclusion: Therefore, pictorial drawings are useful for describing the shape of a piece part or component.

- A. The conclusion does not logically follow from the statement.
- B. The conclusion is partially supported by the statement.
- C. The conclusion is unrelated to the statement.
- D. The conclusion logically follows from the statement. ✓

Q44 Part B (Machinist)

A shaft with a basic size of 40 mm has an allowance of 0.06 mm for clearance. The design size of the shaft is _____.

- A. 39.94 mm ✓
- B. 40.00 mm
- C. 40.06 mm
- D. 39.04 mm

Q45 Part B (Machinist)

Match the following designations of sheets with their respective trimmed sizes in length and breadth.

Designation Trimmed Size

- A) A0 P) 297 × 420
- B) A1 Q) 420 × 594
- C) A2 R) 594 × 841
- D) A3 S) 841 × 1189

- A. A-S ; B-R ; C-Q ; D-P ✓
- B. A-Q ; B-R ; C-S ; D-P
- C. A-S ; B-P ; C-Q ; D-R
- D. A-P ; B-R ; C-Q ; D-S

Q46 Part B (Machinist)

Which of the following is a characteristic of a flat drill?

- A. It has a parallel and taper shank design for different applications.
- B. It is mainly used for drilling deep holes with high efficiency.
- C. It has a helical flute along its length for smooth chip removal.
- D. It is inexpensive to produce but has poor chip removal. ✓



Q47 Part B (Machinist)

Malleability is most important for which type of industrial application?

- A. Bearing production
- B. Cutting tool manufacturing
- C. Wire manufacturing
- D. Sheet metal fabrication ✓

Q48 Part B (Machinist)

As per the BS standards, the Environment Management code is:

- A. BS ISO 45001
- B. BS EN ISO 14001 ✓
- C. BS EN ISO/IEC 27001
- D. BS EN ISO 9001

Q49 Part B (Machinist)

What is the first step when entering offset data in the offset page?

- A. Press the function key ✓
- B. Enter the tool wear offset value first
- C. Adjust the work offset value before enabling settings
- D. Directly input the tool offset value

Q50 Part B (Machinist)

An angle greater than 180 degrees is referred to as _____.

- A. a right angle
- B. an acute angle
- C. an obtuse angle
- D. a reflex angle ✓

Q51 Part B (Machinist)

What is the primary reason for conducting a vehicle road test?

- A. To test how fast the vehicle can go
- B. To avoid the need for inspections
- C. To increase fuel efficiency
- D. To ensure the vehicle is functioning safely and correctly ✓

Q52 Part B (Machinist)

_____ is a measuring device that uses the difference between two separate measuring instrument scales to determine a job's measurement.

- A. Either the principle of Vernier caliper or micrometer
- B. The principle of the micrometer
- C. Neither the principle of Vernier caliper nor micrometer
- D. The principle of Vernier caliper ✓

Q53 Part B (Machinist)

Which of the following screwdrivers has cross-shaped tips that are unlikely to slip from the cruciform slots in Philips recessed head screws?

- A. Stumpy screwdriver
- B. Offset screwdriver
- C. Cross-recess screwdriver ✓
- D. Ratchet screwdriver

Q54 Part B (Machinist)

In a lathe machine with a 3-jaw chuck, the jaws are moved:

- A. by pneumatic pressure
- B. by magnetic force
- C. simultaneously in a radial direction by rotating a pinion ✓
- D. independently using individual levers

Q55 Part B (Machinist)

Which of the following instruments is commonly used along with a planer gauge for precise height measurement?

- A. Vernier caliper
- B. Depth gauge
- C. Micrometer
- D. Dial indicator ✓

Q56 Part B (Machinist)

Natural rubber is soft at high temperatures and brittle at low temperatures; hence raw rubber is heated with sulphur and other additives at a temperature range between 373 – 415 K to make it strong. This process is called _____ of rubber.

- A. vulcanisation ✓
- B. molding
- C. latex
- D. extrusion



Q57 Part B (Machinist)

For which of the following calipers, a screw and nut are provided for opening and closing the caliper legs?

A. Spring joint calipers



B. Firm joint calipers

C. Simple calipers

D. Leg and point calipers

Q58 Part B (Machinist)

Which of the following materials is most malleable?

A. Glass

B. Copper

C. Gold



D. Cast iron

Q59 Part B (Machinist)

Which of the following characteristics best describes angular milling cutters?

A. They have teeth on the periphery and edges on a conical surface.



B. They are used only for vertical milling operations.

C. They have straight teeth arranged perpendicular to the axis.

D. They have teeth parallel to the axis and a cylindrical shape.

Q60 Part B (Machinist)

What is the function of the work part zero point in CNC machining?

A. It sets the reference position for the workpiece coordinate system.



B. It adjusts the tool offset for different machining processes.

C. It limits the movement range of the machine table in operation.

D. It defines the highest point reached by the machine spindle.

Q61 Part B (Machinist)

Which of the following actions is a part of the emergency response team's responsibilities during an active emergency?

A. Preparing reports on emergency incidents

B. Rescuing persons in immediate danger



C. Conducting routine safety checks

D. Scheduling regular evacuation drills

Q62 Part B (Machinist)

What is the primary goal of the 5S concept?

A. To replace traditional safety measures

B. To increase the number of safety regulations

C. To improve workplace organisation and efficiency



D. To eliminate the need for maintenance

Q63 Part B (Machinist)

A 100-mm centre-punch could have a 10-mm diameter body and a 6-mm diameter point ground to an angle of _____.

A. 120°

B. 90°



C. 60°

D. 30°

Q64 Part B (Machinist)

Which of the following options correctly describes the significance of the first letter in an ISO-specified tool insert code, 'C N M G 12 04 08-MP'?

A. It specifies the coating type applied to the insert for wear resistance.

B. It represents the shape of the insert used in machining.



C. It denotes the cutting-edge geometry of the insert.

D. It indicates the material of the insert used for machining.

Q65 Part B (Machinist)

In a circuit with a NTC type thermistor and a fixed resistor connected in series connected to a DC power supply, what will happen to the output voltage if there is a rise in temperature?

A. The output voltage will increase.



B. The output voltage will remain constant.

C. The output voltage will fluctuate depending on the resistor value.

D. The output voltage will decrease.

Q66 Part B (Machinist)

What is the primary purpose of preventive maintenance?

A. To increase the workload of employees

B. To reduce unexpected equipment failures



C. To delay repairs until breakdowns occur

D. To eliminate the need for regular inspections



Q67 Part B (Machinist)

How is the height of a planer gauge adjusted?

- A. By rotating a vernier scale
- B. By tightening a micrometer screw
- C. By using slip gauges** ✓
- D. By applying pressure manually

Q68 Part B (Machinist)

Which of the following statements about a Type 4 tapered grinding wheel is correct?

- A. It is mainly used for fine grinding and has flat sides.
- B. It is mainly used for cutting and has curved edges.
- C. It is mainly used for rough grinding and has tapered sides.** ✓
- D. It is mainly used for polishing and has straight sides.

Q69 Part B (Machinist)

Which of the following statements best describes the application of oxy-other fuel gas welding?

- A. It is used for welding metals requiring high heat input.
- B. It is mainly used for welding thick steel plates.
- C. It produces a higher flame temperature than oxy-acetylene welding.
- D. It is preferred for welding metals with lower heat requirements.** ✓

Q70 Part B (Machinist)

On a digital vernier caliper, the purpose of pressing the zero button is to:

- A. change the units of measurement
- B. lock the jaws in a fixed position
- C. set the reading to zero** ✓
- D. turn the LCD display on or off

Q71 Part B (Machinist)

Sine bars are used when a high degree of accuracy less than _____ is needed for measuring angles.

- A. 1 degree
- B. 30 degrees
- C. 1 minute** ✓
- D. 30 minutes

Q72 Part B (Machinist)

Which of the following is an INCORRECT statement for belt-pulley system?

- A. Arc of contact on the smaller pulley may be as small as possible.** ✓
- B. A long belt tends to swing from side to side, causing the belt to run out of the pulleys.
- C. The pulleys should not be too far apart.
- D. The pulleys should not be too close together.

Q73 Part B (Machinist)

From the following relation, select relation for taper angle (θ) in taper turning, where l = Length of taper, D = Large diameter and d = small diameter.

A. $\tan\theta = \frac{(D - d)}{2l}$ ✓

B. $\tan\theta = \frac{(D + d)}{2l}$

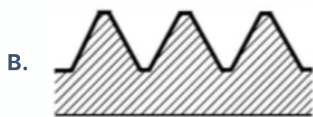
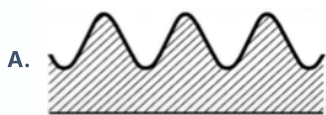
C. $\frac{1}{2\tan\theta} = \frac{(D + d)}{2l}$

D. $\frac{1}{2\tan\theta} = \frac{(D - d)}{2l}$



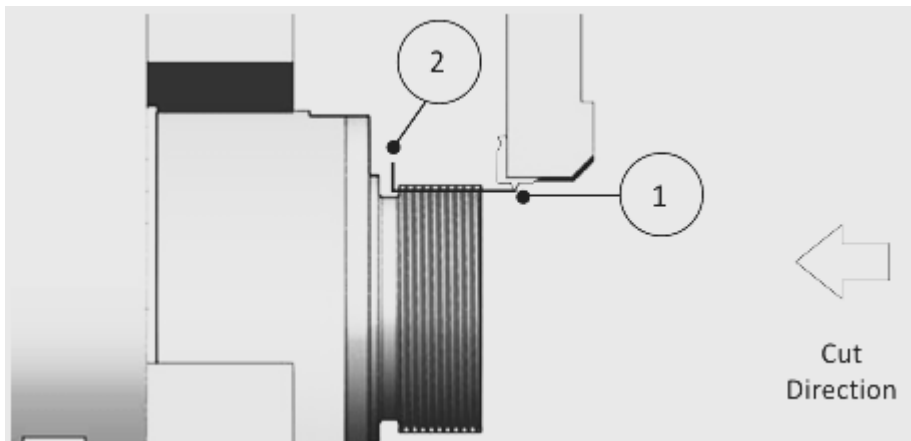
Q74 Part B (Machinist)

Identify the ACME thread.



Q75 Part B (Machinist)

In a thread cutting operation, symbols 1 and 2 indicate ____ and ____.



A. Pull Off; Start Cut

B. Start Cut; Start Cut

C. Start Cut; Pull Off



D. Pull Off; Pull Off



Part B (Machinist)

75 Questions • Answer Key

Q1 Part B (Machinist)

Convert 8.5% into a decimal.

- A. 0.85
- B. 8.5
- C. 0.085
- D. 85



Q2 Part B (Machinist)

For your safety at work, which of the following should be ensured?

1. All the required protective clothing and equipment are used.
2. Training and instruction necessary for performing tasks safely have been received.

- A. Only statement 1
- B. Neither statement 1 nor 2
- C. Only statement 2
- D. Both statements 1 and 2



Q3 Part B (Machinist)

_____ are the greatest option for experts due to their durability and flexibility.

- A. Coarse-toothed blades
- B. Bi-metal blades
- C. Fine-toothed blades
- D. High-carbon steel blades



Q4 Part B (Machinist)

Which of the following metals has the lowest melting point?

- A. Mercury
- B. Iron
- C. Lead
- D. Gold



Q5 Part B (Machinist)

In an ISO system of Limits and Fits (ISO:286-1:1998), the tolerance size is designated as:

- A. basic value followed by a letter
- B. basic value followed by a number
- C. basic value alone
- D. basic value followed by symbol composed of a letter and number



Q6 Part B (Machinist)

Tapering of a small part of a job at its edge or corner is known as _____.

- A. knurling
- B. chamfering
- C. step turning
- D. facing



Q7 Part B (Machinist)

Which of the following information is necessary to construct a rectangle?

- A. Length of two adjacent sides
- B. Length of one side and the area of the rectangle
- C. Only the length of one side
- D. Only the length of the diagonal



Q8 Part B (Machinist)

Which of the following colours is commonly used for caution signs?

- A. Blue
- B. Yellow
- C. Red
- D. Green



Q9 Part B (Machinist)

What is the primary benefit of a slant bed in a CNC lathe compared to a flat bed?

- A. It improves operator access to the work area.
- B. It allows better chip disposal due to gravity.
- C. It enhances the precision of the Z-axis movement.
- D. It reduces material usage and machine weight.



Q10 Part B (Machinist)

Which of the following statements is NOT correct for using scribers?

- A. Scribe points are very sharp, so they are to be handled very carefully.
- B. While scribing lines, the scribe is used like a pencil.
- C. Do not put the scribe in your pocket.
- D. Place a cork on the point when in use to prevent accidents. ✓

Q11 Part B (Machinist)

Which of the following correctly differentiates a cutting blowpipe/torch from a welding blowpipe/torch?

- A. A cutting blowpipe has 3 control valves, while a welding blowpipe has 1.
- B. A cutting blowpipe has 2 control valves and 1 lever, while a welding blowpipe has 2 control valves. ✓
- C. A cutting blowpipe has 2 levers, while a welding blowpipe has 1 lever.
- D. A cutting blowpipe has 1 control valve, while a welding blowpipe has 2 control valves.

Q12 Part B (Machinist)

Who is authorised to conduct road tests on workshop vehicles?

- A. Only trained and certified personnel ✓
- B. Visitors to the workshop
- C. Any employee
- D. The company accountant

Q13 Part B (Machinist)

If the basic size of the diameter of a shaft is 80 mm and the variation limit of ± 0.07 mm is given, then its high limit and low limit are ____ and ____.

- A. 79.93, 80.07
- B. 80.07, 79.93 ✓
- C. 80.00, 79.93
- D. 79.00, 80.07

Q14 Part B (Machinist)

A file that is flat on one side and curved on the other side is known as a ____ file.

- A. half-round ✓
- B. triangular
- C. rectangular
- D. square

Q15 Part B (Machinist)

Select the correct representation as Tolerance size for a hole from the given options.

- A. 50H8- c7
- B. 50 H8/g7
- C. 50H8 ✓
- D. 50g7

Q16 Part B (Machinist)

When passing stationary vehicles, keep a watch on _____ who may come out suddenly from the front of the stationary vehicle. While overtaking, it should be done on the _____ side. Always keep a good _____ between your vehicle and others.

- A. cyclists; left; interval
- B. vehicles; right; gap
- C. drivers; left; space
- D. pedestrians; right; distance ✓

Q17 Part B (Machinist)

Which of the following types of chisels is used for separating metals after chain drilling?

- A. Cross-cut chisel
- B. Flat chisel
- C. Web chisel ✓
- D. Diamond point chisel

Q18 Part B (Machinist)

When creating 10 mm single-stroke capital letters in vertical style, what does the 10 mm distance between horizontal parallel lines represent?

- A. Letter width
- B. Letter height ✓
- C. Stroke thickness
- D. Interline spacing

Q19 Part B (Machinist)

A 100-mm prick punch with a 7-mm diameter body could have a 2.5-mm diameter point ground to an angle of _____.

- A. 90°
- B. 30° ✓
- C. 120°
- D. 45°



Q20 Part B (Machinist)

Which property is the most important for materials used in automobile crash zones?

- A. High hardness
- B. High stiffness
- C. High brittleness
- D. High toughness

**Q21 Part B (Machinist)**

A voltmeter with a resistance of 10,000 ohms is connected across a circuit that has a voltage of 50 V. What is the current flowing through the voltmeter?

- A. 2 mA
- B. 1 mA
- C. 5 mA
- D. 4 mA

**Q22 Part B (Machinist)**

Find the lateral surface area of a cube with side length 5 cm.

- A. 125 cm²
- B. 150 cm²
- C. 200 cm²
- D. 100 cm²

**Q23 Part B (Machinist)**

Wrong setting of machine, wrong use of a tool, defect in measuring tools, defective metal, and carelessness of the mechanic have no effect in the utility of the part. This is an advantage of ____.

- A. deviation
- B. tolerance
- C. limit
- D. interchangeability

**Q24 Part B (Machinist)**

Which type of shank is commonly used on hand reamers?

- A. Morse taper shank
- B. Threaded shank
- C. Straight shank with a round end
- D. Straight shank with a square end

**Q25 Part B (Machinist)**

_____ must be ascribed for the sake of convenience and is the size of a part in relation to which all limits of variation are determined.

- A. Actual size
- B. Nominal size
- C. Basic size or zero size
- D. Basic size alone

**Q26 Part B (Machinist)**

The wave set of hacksaw teeth set has a pitch of _____.

- A. 2.0 mm
- B. 0.5 mm
- C. 0.8 mm
- D. 1.0 mm

**Q27 Part B (Machinist)**

Which of the following 'V' blocks will have one 'V' groove and two grooves (slots) on either side for clamping in two positions?

- A. Double level single groove 'V' block
- B. Matched pair 'V' block
- C. Single level double groove 'V' block
- D. Single level single groove 'V' block

**Q28 Part B (Machinist)**

Fine-toothed blades are better suited for:

- A. infrequent use
- B. cutting metals
- C. experts due to their durability and flexibility
- D. cutting wood and plastic

**Q29 Part B (Machinist)**

During a lathe operation, the influence of machining allowance on the total depth of cut taken is that:

- A. it directly determines the feed rate corresponding to the speed
- B. it has no influence on the depth of cut
- C. it directly determines the depth of cut in each pass
- D. it sets the total material to be removed, which is then divided into multiple cuts



Q30 Part B (Machinist)

A material with high toughness must have:

- A. low strength and low ductility
- B. high strength and high ductility ✓
- C. high strength and low ductility
- D. high ductility and low strength

Q31 Part B (Machinist)

What does the grit size number represent in relation to the grain size?

- A. A larger grit size number means coarser grit.
- B. The grit size number indicates the grain's diameter.
- C. A larger grit size number means finer grit. ✓
- D. A smaller grit size number means finer grit.

Q32 Part B (Machinist)

In the standard marking of a grinding wheel (e.g. 51-A 46 H 5 V 8), what does the symbol 'H' represent?

- A. Grain size of the abrasive particles
- B. Type of bond used in the wheel
- C. Grade of the grinding wheel ✓
- D. Type of abrasive used in the wheel

Q33 Part B (Machinist)

Which of the following statements about title block is/are true?

Statement 1: The title block is situated in the bottom right-hand corner of the drawing sheet.
Statement 2: The contents of the title block are standardised and cannot be modified to suit individual company needs.

- A. Both statements are false
- B. Statement 1 is false, but statement 2 is true
- C. Statement 1 is true, but statement 2 is false ✓
- D. Both statements are true

Q34 Part B (Machinist)

Which type of line is used to represent hidden edges or surfaces in a technical drawing, as per BIS SP 46-2003?

- A. Continuous thin line
- B. Continuous thick line
- C. Dashed thin line ✓
- D. Chain thin line

Q35 Part B (Machinist)

Which of the following is NOT a part of the micrometer?

- A. Spindle
- B. Anvil
- C. Jam ✓
- D. Frame

Q36 Part B (Machinist)

What is the unit of measurement used for thread pitch in the metric system?

- A. Newtons
- B. Degrees
- C. Threads per inch (TPI)
- D. Millimetres (mm) ✓

Q37 Part B (Machinist)

Why is a Vernier height gauge preferred over a simple steel rule for height measurement?

- A. It does not require a surface plate.
- B. It provides more precise measurements. ✓
- C. It is comparatively more portable.
- D. It is cheaper than steel rule.

Q38 Part B (Machinist)

_____ is a type of turning where a workpiece is turned into a sequence of steps with varying diameters.

- A. Knurling
- B. Step turning ✓
- C. Chamfering
- D. Facing

Q39 Part B (Machinist)

In taper turning by the tailstock offset method, a job has a large diameter (D) of 60 mm, a small diameter (d) of 40 mm, a taper length (ℓ) of 200 mm and a total job length (L) of 800 mm. What will be the required tailstock offset?

- A. 40 mm ✓
- B. 10 mm
- C. 5 mm
- D. 20 mm



Q40 Part B (Machinist)

The SI unit of temperature is/are ____.

- A. both kelvin and celsius
- B. celsius
- C. kelvin ✓
- D. fahrenheit

Q41 Part B (Machinist)

The type of feed primarily used for grooving operations on a lathe is ____ feed.

- A. cross ✓
- B. angular
- C. rotary
- D. longitudinal

Q42 Part B (Machinist)

Which of the following best describes the application of Atomic Hydrogen Welding (AHW)?

- A. It generates a lower temperature arc than other arc welding processes.
- B. It is commonly used over modern welding methods due to its efficiency.
- C. It is used for all ferrous and non-ferrous metals with a high-temperature arc. ✓
- D. It is mainly preferred for low-temperature welding of soft metals.

Q43 Part B (Machinist)

Which of the following is the primary reason why copper is widely used as a conductor in electrical wiring?

- A. Copper has low resistance and high conductivity. ✓
- B. Copper has a low melting point.
- C. Copper is abundant and inexpensive.
- D. Copper has high resistance to electricity.

Q44 Part B (Machinist)

What is the primary function of the drill head in a drilling machine?

- A. It controls the coolant flow during drilling operations.
- B. It supports the drill table and workpiece during operation.
- C. It houses the driving and feeding mechanism for the spindle. ✓
- D. It holds the cutting tool securely in place.

Q45 Part B (Machinist)

Which of the following is a major effect of a collision in a CNC machining centre?

- A. Improved tool performance and longevity
- B. Enhanced efficiency in CNC operations
- C. Automatic correction of machining errors
- D. Increased machine downtime and repair costs ✓

Q46 Part B (Machinist)

Which of the following statements about slotting tools is correct?

- A. Slotting tools remove metal during the horizontal stroke of cutting.
- B. Slotting tools have a front rake and clearance angles but no side rake angle. ✓
- C. Slotting tools have angles determined with respect to the horizontal plane.
- D. Slotting tools are weaker than the material being cut to ensure easy machining.

Q47 Part B (Machinist)

What is the SI unit of 'volume'?

- A. Litres
- B. Cubic centimetre
- C. Cubic metre ✓
- D. Millilitres

Q48 Part B (Machinist)

As we know from the graduation of micrometer, if we give one full round to thimble, its spindle moves $\frac{1}{2}$ mm forward or backward. Therefore, one part of the thimble is its ____.

- A. Pitch
- B. Least count ✓
- C. MSR
- D. Lead

Q49 Part B (Machinist)

What is the minimum age for employment in factories or mines or other hazardous employment, according to Article 24 of the Indian Constitution?

- A. 14 years ✓
- B. 12 years
- C. 16 years
- D. 18 years



Q50 Part B (Machinist)

What is the typical temperature range of a mercury-based clinical thermometer?

- A. 0°C to 100°C
- B. 35°C to 42°C ✓
- C. 0°C to 50°C
- D. -10°C to 110°C

Q51 Part B (Machinist)

Which of the following correctly describes the use of a screw pitch gauge?

- A. It verifies the length of threads on fasteners.
- B. It measures the depth of internal threads in nuts.
- C. It measures the external diameter of cylindrical objects.
- D. It determines the pitch of a thread on screws or bolts. ✓

Q52 Part B (Machinist)

Which type of spindle drive motor is preferred in CNC machine tools due to advancements in microprocessor-based technology?

- A. Separately excited DC shunt motor
- B. Series excited DC motor
- C. Three-phase AC induction motor ✓
- D. Single-phase AC synchronous motor

Q53 Part B (Machinist)

As we know from the graduation of micrometer, if we give one full round to thimble, its spindle moves $\frac{1}{2}$ mm forward or backward. A buck part can be divided into 0 to 50 parts. The least count of the micrometer is ____ mm.

- A. 0.05
- B. 0.10
- C. 0.01 ✓
- D. 0.50

Q54 Part B (Machinist)

On what basis is a joint said to be double-riveted lap joint or triple riveted lap joint?

- A. Based on number of rows of rivets in joint ✓
- B. Based on strength of joint
- C. Based on type of joint
- D. Based on number of columns of rivets in joint

Q55 Part B (Machinist)

Which of the following statements is INCORRECT about end standard?

- A. It measures the distance between two parallel flat surfaces.
- B. Faces are subject to wear.
- C. It is slower but more accurate.
- D. It is used to measure the distance between two engraved lines. ✓

Q56 Part B (Machinist)

In a logic circuit, two inputs A and B are applied to an AND gate, and the output of the AND gate is connected to the input of a NOT gate. If the inputs A and B are both at logic 0, what will be the output of the entire circuit?

- A. Undefined
- B. 0
- C. 1 ✓
- D. 2

Q57 Part B (Machinist)

Match the following types of lines with their correct descriptions according to their orientation and characteristics.

Description	Type of Line
A. A line that is neither parallel to a horizontal plane nor perpendicular to it.	1. Horizontal line
B. A line that is perpendicular to horizontal lines.	2. Vertical line
C. A line that changes its direction continuously.	3. Inclined line
D. A line that is parallel to a horizontal plane.	4. Curved line

- A. A - 1, B - 2, C - 3, D - 4
- B. A - 2, B - 3, C - 4, D - 1
- C. A - 3, B - 2, C - 4, D - 1 ✓
- D. A - 2, B - 1, C - 4, D - 3



Q58 Part B (Machinist)

If the length of a resistor is doubled, what happens to its resistance, assuming all other factors remain constant?

A. The resistance is doubled. ✓

B. The resistance remains the same.

C. The resistance is halved.

D. The resistance quadruples.

Q59 Part B (Machinist)

The driving mechanism of the slotting machine converts the rotary motion of the bull gear into the _____ motion of the ram.

A. circular

B. oscillating

C. twisting

D. reciprocating ✓

Q60 Part B (Machinist)

What is a possible consequence if a CNC machine stops suddenly during actual cutting movement?

A. No effect on the tool or the workpiece

B. Automatic tool replacement without any damage

C. Only a minor delay in restarting the program

D. Tool breakage and tool marks on the workpiece ✓

Q61 Part B (Machinist)

Which of the following options correctly describes the axis convention in a CNC turning centre?

A. The spindle axis is designated as Z and the radial axis away from the tool post is Y.

B. The spindle axis is designated as X and the radial axis toward the tool post is Z.

C. The spindle axis is designated as Z and the radial axis toward the tool post is X. ✓

D. The spindle axis is designated as Y and the radial axis toward the tool post is X.

Q62 Part B (Machinist)

Which type of rake angle is generally used for milling materials that produce continuous chips?

A. Negative rake

B. Positive rake ✓

C. Zero rake

D. Neutral rake

Q63 Part B (Machinist)

When used for fits between shaft and hole, _____ is specified or both shaft and hole.

A. the shaft size is more than the hole size

B. the same basic size ✓

C. the hole size is more than the shaft size

D. different size

Q64 Part B (Machinist)

In a series circuit, three resistors of 10 ohms, 20 ohms, and R ohms are connected in series with a 12 V battery. What is the value of resistance R if current flowing in the circuit is 0.2 A?

A. 10 ohms

B. 20 ohms

C. 30 ohms ✓

D. 40 ohms

Q65 Part B (Machinist)

Which of the following is a characteristic of incremental programming?

A. It always measures dimensions from a fixed reference point.

B. It does not allow the use of direction signs for motion.

C. It requires all dimensions to be positive values.

D. It defines each position relative to the last specified point. ✓

Q66 Part B (Machinist)

Which of the following statements about slip gauges is true?

A. Slip gauges do not require calibration.

B. Slip gauges are used only for rough measurements.

C. Slip gauges are flexible and can bend easily.

D. Slip gauges are used for setting measuring instruments. ✓

Q67 Part B (Machinist)

During the turning operation on lathe, if D is the initial diameter and d is the final diameter of the work piece, the depth of cut, t, is calculated by _____.

A. $t = D - d$

B. $t = (D - d) / 2$ ✓

C. $t = (D + d) / 2$

D. $t = D / d$



Q68 Part B (Machinist)

Which of the following terms in the 5S concept refers to making a habit of maintaining the established procedures?

- A. Shine
- B. Set
- C. Sort
- D. Sustain**

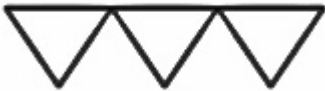
Q69 Part B (Machinist)

Which of the following calipers are used for marking lines, parallel to inside and outside edges and for locating the centre of round bars?

- A. Spring joint calipers
- B. Leg and point calipers**
- C. Simple calipers
- D. Firm joint calipers

Q70 Part B (Machinist)

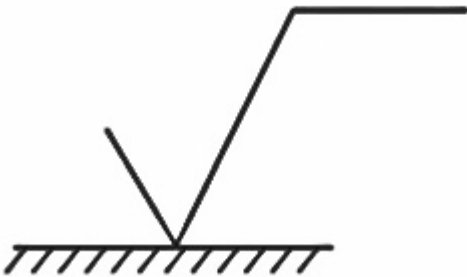
Observe the given roughness grade symbol and identify the corresponding roughness grade number whose corresponding roughness value is $0.2 \mu\text{m}$.



- A. N1
- B. N3
- C. N4**
- D. N2

Q71 Part B (Machinist)

What does the surface finish symbol shown in the given figure represent?



- A. A specific surface texture requirement is indicated.**
- B. The surface must be left in its cast or forged state.
- C. The surface should be coated without material removal.
- D. No machining is required on this surface.



Q72 Part B (Machinist)

Match the following.

(A)	Threading tool	(P)	
(B)	Profile tool	(Q)	
(C)	Facing tool	(R)	
(D)	Knurling tool	(S)	

A. A - S, B - R, C - Q, D - P



B. A - P, B - R, C - Q, D - S

C. A - S, B - Q, C - R, D - P

D. A - S, B - R, C - P, D - Q

Q73 Part B (Machinist)In a Full Lap joint, diagonal pitch is given by ____, where p_d - diagonal pitch, p - pitch, d - diameter of rivets

A. $p_d = \frac{(2p + d)}{3}$



B. $p_d = \frac{(2p + 6d)}{4}$

C. $p_d = \frac{(2p \times d)}{3}$

D. $p_d = \frac{(2p - d)}{3}$

Q74 Part B (Machinist)

Identify the below tool used on the Lathe.



A. Threading tool



B. Knurling tool

C. Parting tool

D. Boring tool

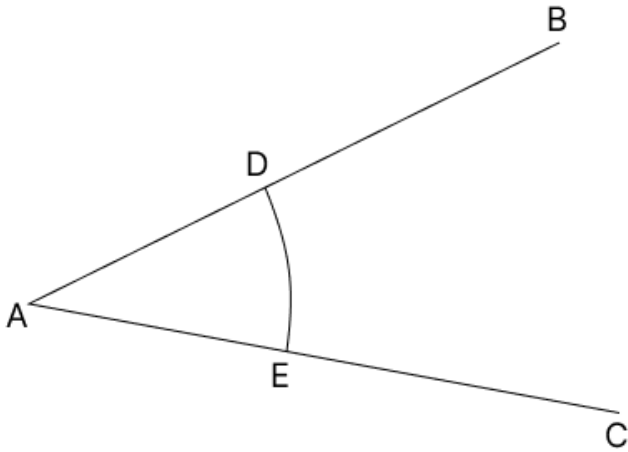


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Q75 Part B (Machinist)

In the process of bisecting angle BAC in the given figure, why do we draw arcs from points D and E?



- A. To find midpoint AB
- B. To mark equal lengths
- C. To intersect line AC
- D. To intersect above A

