

PROVISIONAL ANSWER KEY

Question 159/2023/OL

Paper Code:

Category 425/2022

Code:

Exam: Junior Instructor (Turner) (NCA- LC/AI)

Date of Test 10-11-2023

Department Industrial Training

Question1:-From the below statements, choose the correct one regarding the classification of a hammer

A:-Shape of head

B:-Size of face

C:-Length of handle

D:-Shape of peen

Correct Answer:- Option-D

Question2:-Which one of the following suits best regarding the length of a file?

A:-Distance from point to Handle

B:-Distance from shoulder to Tip

C:-Distance from tip to heel

D:-Distance from point to ferrule

Correct Answer:- Option-C

Question3:-Choose the Caliper which is extremely useful for scribing lines parallel to the edge of a work.

A:-Odd leg caliper

B:-Outside spring caliper

C:-Transfer caliper

D:-Inside spring caliper

Correct Answer:- Option-A

Question4:-Which of the following corresponds to the accuracy of a Try square?

A:-0.001 mm per 10 mm length

B:-0.002 mm per 10 mm length

C:-0.01 mm per 10 mm length

D:-0.02 mm per 10 mm length

Correct Answer:- Option-B

Question5:-Name the vice that a Blacksmith uses most often

A:-Pipe vice

B:-Tool makers vice

C:-Leg vice

D:-Bench vice

Correct Answer:- Option-C

Question6:-Which of the following standard taper is used in shanks of twist drill and reamers?

A:-Morse taper

B:-Brown and sharpe taper

C:-Metric taper

D:-Jarno taper

Correct Answer:- Option-A

Question7:-Choose the direction of tool movement with reference to the Lathe axis in tail stock setover method.

A:-Inclined at required angle

B:-Perpendicular

C:-Parallel

D:-None of the above

Correct Answer:- Option-C

Question8:-What type of standard taper is used on the external taper of lathe spindle nose where chuck or face plate is mounted?

A:-Morse taper

B:-Brown and sharpe taper

C:-Jarno taper

D:-Metric taper

Correct Answer:- Option-C

Question9:-Which one of the following is the advantage of taper turning attachment over tail stock offset method?

A:-Good surface finish

B:-Long tapers can be produced

C:-Job can be held between centers

D:-Power feed can be given for both internal and external taper

Correct Answer:- Option-D

Question10:-State the most commonly used standard taper in industries.

A:-Morse taper

B:-Brown and sharpe taper

C:-Metric taper

D:-Jarno taper

Correct Answer:- Option-A

Question11:-The element of taper which is expressed by 'Number' in metric taper is

A:-Length

B:-Angle of taper

C:-Small diameter

D:-Big diameter

Correct Answer:- Option-D

Question12:-What is the taper ratio for a taper length of 18 units and the difference in diameter is 1 unit?

A:-2 : 18

B:- 1 : 18

C:- 1 : 20

D:-3 : 9

Correct Answer:- Option-B

Question13:-Which one of the following taper turning method can be used for cutting internal taper without power feed?

A:-Combination of feeds

B:-Tail stock offset method

C:-Taper turning attachment

D:-Compound rest swiveling method

Correct Answer:- Option-D

Question14:-What is the ratio of standard pin tapers used in Taper pins?

A:-1 : 30

B:-1 : 40

C:-1 : 50

D:-1 : 60

Correct Answer:- Option-C

Question15:-What are the range of Morse tapers used on taper shank twist drills, lathe centers and reamers?

A:-MT0 to MT4

B:-MT2 to MT7

C:-MT3 to MT7

D:-MT5 to MT8

Correct Answer:- Option-A

Question16:-Find the amount of taper for a length of 100 mm, if the big diameter is 75 mm and small diameter is 65 mm.

A:-2:20

B:-1:0.1

C:-1:4

D:-10:1

Correct Answer:- Option-A

Question17:-Determine the amount of Tailstock set over required to turn a taper through 40 mm length from a rod of diameter 30 mm and 80 mm length keeping big diameter 25 mm and small diameter 20 mm.

A:-10 mm

B:-05 mm

C:-12 mm

D:-06 mm

Correct Answer:- Option-B

Question18:-If the diameter of a work piece is increasing or decreasing uniformly, then the ratio of the difference in diameter to its length is termed

A:-Taper

B:-Offset

C:-Eccentricity

D:-Conicity

Correct Answer:- Option-D

Question19:-Which one of the following statement should be kept in mind while swiveling the compound rest for taper turning?

A:-Set the compound rest at full taper length

B:-Set the compound rest at full taper angle

C:-Set the compound rest at half taper length

D:-Set the compound rest at half taper angle

Correct Answer:- Option-D

Question20:-Find the angle of compound rest to be swiveled while turning a taper of big diameter 60 mm and small diameter 20 mm for a length of 20 mm.

A:-30°

B:-45°

C:-60°

D:-90°

Correct Answer:- Option-B

Question21:-The end of twist drill bit shape is

A:-Flat

B:-Round

C:-Conical

D:-Straight

Correct Answer:- Option-C

Question22:-Used to remove a broken tap in a hole

A:-Screw driver

B:-Tap extractor

C:-Punch

D:-Scriber

Correct Answer:- Option-B

Question23:-Drill chucks are held on the machine spindle by means

A:-Chuck nut

B:-Drift

C:-Arbor

D:-Neck

Correct Answer:- Option-C

Question24:-Which is the formula to find out tap drill size?

A:-Drill size = Tap size – pitch

B:-Drill size = 3 × pitch

C:-Drill size = 2 × pitch

D:-Drill size = 2 × Tap size

Correct Answer:- Option-A

Question25:-The point angle of general purpose drill is

A:-27°

B:-60°

C:-90°

D:-118°

Correct Answer:- Option-D

Question26:-The angle of BSW thread is

A:-55°

B:-60°

C:-29°

D:-45°

Correct Answer:- Option-A

Question27:-The lead of three start thread of 2 mm pitch is

A:-2 mm

B:-6 mm

C:-8 mm

D:-4 mm

Correct Answer:- Option-B

Question28:-Screw threads are produced without metal removal by a process called as

A:-Thread cutting

B:-Thread chasing

C:-Thread rolling

D:-Tapping

Correct Answer:- Option-C

Question29:-In screw jacks, the threads used are

A:-BSW

B:-V

C:-Square

D:-BA

Correct Answer:- Option-C

Question30:-When an external gear is meshed with an external gear, the gears will rotate in

A:-Same direction

B:-Opposite direction

C:-Will not rotate

D:-None of these

Correct Answer:- Option-B

Question31:-Which gauge is used to check the internal threads?

A:-Plug gauge

B:-Thread plug gauge

C:-Ring gauge

D:-Thread ring gauge

Correct Answer:- Option-B

Question32:-B.S.F screw threads are generally used for

A:-Electrical goods

B:-Lathe lead screw

C:-Screw jack

D:-Fly press

Correct Answer:- Option-A

Question33:-The depth of indian standard (BIS) thread is

A:-0.6000 P

B:-0.6134 P

C:-0.6495 P

D:-0.6314 P

Correct Answer:- Option-B

Question34:-In thread assembly the contact between the male and female threads takes place on the

A:-Crests

B:-Roots

C:-Pitches

D:-Flanks

Correct Answer:- Option-D

Question35:-Root diameter of a thread is another name for

A:-Minor diameter

B:-Major diameter

C:-Pitch diameter

D:-Base diameter

Correct Answer:- Option-A

Question36:-Which one of the screw thread elements is NOT checked with the thread ring gauge?

A:-Profile

B:-Helix angle

C:-Pitch diameter

D:-Pitch

Correct Answer:- Option-B

Question37:-Which is the speed ratio of gear train is

A:- $N_1/N_2 = T_2/T_1$

B:- $N_1/N_2 = D_1/D_2$

C:- $T_1/T_2 = N_2/N_1$

D:- $D_1/D_2 = N_2/N_1$

Correct Answer:- Option-A

Question38:-A screw thread is formed on a cylindrical surface by cutting

A:-Square grooves

B:-V-grooves

C:-Half round grooves

D:-Helical grooves

Correct Answer:- Option-D

Question39:-The distance from a given point on one thread to a corresponding point on the next thread is called

- A:-Pitch
- B:-Lead
- C:-Minor diameter
- D:-Helix

Correct Answer:- Option-A

Question40:-Which type of thread is considered strong and frequently used for power transmission?

- A:-Buttress
- B:-BSF
- C:-Acme
- D:-Metric

Correct Answer:- Option-C

Question41:-The functions of machine tools are

- i. To hold and support the piece to be machined
- ii. To hold and support the cutting tools
- iii. To provide requisite motion to work piece, tool or both
- iv. To regulate the cutting speed and feed of the tool and work piece

- A:-Only ii and iii
- B:-Only i and ii
- C:-All of the above (i, ii, iii and iv)
- D:-Only i and iv

Correct Answer:- Option-C

Question42:-A centre lathe is specified by

- i. Width of the bed
- ii. Face plate diameter
- iii. Morse taper of centre
- iv. Maximum swing over the bed

- A:-only iii and iv
- B:-all of the above (i, ii iii and iv)
- C:-only i, iii and iv
- D:-only i and ii

Correct Answer:- Option-B

Question43:-The lathe bed ways are mostly made of closed grained gray cast iron. Its advantage are

- i. Resist vibration
- ii. Carbon is in free state which has self lubricating property
- iii. Can withstand more compressive load
- iv. It is malleable

A:-only i and ii

B:-only i, ii and iii

C:-all of the above (i, ii iii and iv)

D:-Only ii and iii

Correct Answer:- Option-B

Question44:-Which one is not a part of lathe Tail stock?

A:-Clamping unit

B:-Set over screw

C:-Operating screw rod

D:-Pivot hinge

Correct Answer:- Option-D

Question45:-The corss slide of a lathe is assembled to the saddle with the help of a

A:-Clevis pins and cotter pins

B:-Retaining rings

C:-Tapered jib

D:-Studs

Correct Answer:- Option-C

Question46:-The thumblers gear mechanism in lathe is used for

A:-Changing the direction of rotation of main spindle

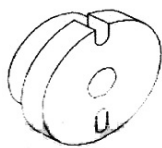
B:-Changing the direction of rotation of lead screw and feed shaft

C:-Changing the direction of rotation of back gear unit

D:-Changing the direction of rotation of bull gear

Correct Answer:- Option-B

Question47:-The figure shows which lathe accessory



A:-Face plate

B:-Catch plate

C:-Drive plate

D:-Lathe carriers

Correct Answer:- Option-B

Question48:-There is no loss of accuracy as the chuck gets worn out. Which chuck

A:-Four jaw chuck

B:-Hydraulic chuck

C:-Collet chuck

D:-Three jaw chuck

Correct Answer:- Option-A

Question49:-In a coated carbide cutting tool a thin layer of which metal is coated on its surface

A:-Cobalt

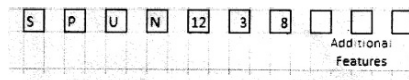
B:-Tungsten

C:-Chromium

D:-Titanium carbide

Correct Answer:- Option-D

Question50:-The designation of a carbide inserts are given below 'U' indicates



A:-Basic shape

B:-Clearance angle

C:-Tolerance class

D:-Characteristics

Correct Answer:- Option-C

Question51:-What is the least count of a vernier Caliper with 50 divisions on the vernier scale?

A:-0.04 mm

B:-0.2 mm

C:-0.4 mm

D:-0.02 mm

Correct Answer:- Option-D

Question52:-What is the reading of a vernier Caliper shown on the figure?



A:-9.25 mm

B:-9.16 mm

C:-9.50 mm

D:-9.32 mm

Correct Answer:- Option-D

Question53:-The accuracy of a digital vernier caliper

A:-0.01 mm

B:-0.001 mm

C:-0.02 mm

D:-0.002 mm

Correct Answer:- Option-A

Question54:-How many number of divisions in the thimble of a micrometer has an accuracy of 0.01mm

A:-100 Div

B:-25 Div

C:-50 Div

D:-5 Div

Correct Answer:- Option-C

Question55:-What is the value of one sub division in a metric micrometer have 50 divisions on the thimble?

A:-1 mm

B:-0.01 mm

C:-0.5 mm

D:-0.05 mm

Correct Answer:- Option-C

Question56:-In a metric micrometer the distance moved by the spindle during one complete rotation of the Thimble is

A:-0.05 mm

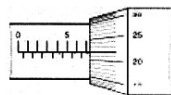
B:-1 mm

C:-0.01 mm

D:-0.5 mm

Correct Answer:- Option-D

Question57:-What is the reading of a micro meter shown in the figure?



A:-70.22 mm

B:-7.22 mm

C:-70.44 mm

D:-7.44 mm

Correct Answer:- Option-B

Question58:-When the anvil and spindle face of a micrometer are in contact if the zero of the thimble rest below the datum line of

A:-Negative error

B:-Positive error

C:-Zero error

D:-Back lash error

Correct Answer:- Option-B

Question59:-When the anvil and spindle face of a micrometer are in contact if the zero of the thimble rest above the datum line of

A:-Negative error

B:-Positive error

C:-Zero error

D:-Backlash error

Correct Answer:- Option-A

Question60:-In a digital micrometer LCD displays measuring data and make direct read out with resolution of

A:-0.01 mm

B:-0.001 mm

C:-0.1 mm

D:-0.0001 mm

Correct Answer:- Option-B

Question61:-Which of the following statement is/are correct about the factors governing the cutting speed?

(i) Rigidity of the work piece

(ii) Finish required

(iii) Tool geometry

A:-Only (i and ii)

B:-Only (ii and iii)

C:-Only (i and iii)

D:-All of the above (i, ii and iii)

Correct Answer:- Option-D

Question62:-Which of the following statement is/are correct about the cutting speed?

i. The cutting edge passes over the material in one minute

ii. The tool moves along the work for each revolution of the work

iii. The rate of metal removed from the work in one minute

A:-Only (i)

B:-Only (ii)

C:-Only (i and ii)

D:-Only (i and iii)

Correct Answer:- Option-A

Question63:-Which part of micrometer, is to ensure uniform pressure between the

measuring surfaces

A:-Thimble

B:-Ratchet stop

C:-Barrel

D:-Anvil

Correct Answer:- Option-B

Question64:-Which micrometers are designed for the measurement of longer internal lengths?

A:-Depth micrometer

B:-Tube micrometer

C:-Stick micrometer

D:-Digital micrometer

Correct Answer:- Option-C

Question65:-What is the cutting speed of drill for drilling aluminium?

A:-140-160 m/min

B:-130-150 m/min

C:-120-140 m/min

D:-70-100 m/min

Correct Answer:- Option-D

Question66:-What is the point angle of drill for drilling brass and bronze?

A:-118°-140°

B:-112°-140°

C:-90°-120°

D:-90°-110°

Correct Answer:- Option-A

Question67:-Which of the following statement is/are correct about the necessity of boring a hole?

i. To obtain concentricity of the hole

ii. To obtain the rigidity of hole

iii. To remove the error formed by drilling, and to facilitate the reaming operation

A:-Only (i and ii)

B:-Only (ii and iii)

C:-Only (i and iii)

D:-All of the above (i, ii and iii)

Correct Answer:- Option-C

Question68:-The operation of beveling the end of a drilled hole is called

A:-Counterboring

B:-Spot facing

C:-Knurling

D:-Counter sinking

Correct Answer:- Option-D

Question69:-The diameter of letter drill series 'Z' is

A:-5.944 mm

B:-6.045 mm

C:-10.490 mm

D:-10.084 mm

Correct Answer:- Option-C

Question70:-Which of the following part is/are correct about the hand reamer?

i. Bevel lead

ii. Land

iii. Heel

A:-only (i and ii)

B:-Only (i and iii)

C:-Only (ii and iii)

D:-All of the above (i, ii and iii)

Correct Answer:- Option-B

Question71:-What is the size based on which the dimensional deviations are given?

A:-Basic size

B:-Actual size

C:-Limits of size

D:-Deviation

Correct Answer:- Option-A

Question72:-Which of the following statement is/are correct about the deviation is zero in shaft basics system?

i. Both upper and lower deviation is zero

ii. Upper deviation is zero

iii. Lower deviation is zero

A:-only (i)

B:-only (iii)

C:-only (ii)

D:-all of the above (i, ii and iii)

Correct Answer:- Option-C

Question73:-How many fundamental tolerances are there in BIS system?

A:-28

B:-25

C:-24

D:-18

Correct Answer:- Option-D

Question74:-Which type of fit, the tolerance zone of the hole and shaft will overlap each other?

A:-Clearance fit

B:-Push fit

C:-Transition fit

D:-Interference fit

Correct Answer:- Option-C

Question75:-_____ is designed with a 'U' slot and an Elliptical slot to accommodate the bent tail of the lathe carrier?

A:-Catch plate

B:-Driving plate

C:-Face plate

D:-Angle plate

Correct Answer:- Option-A

Question76:-Which of the following statement is/are correct about the different types of face plate?

- i. face plates with elongated radial slots and additional parallel slots
- ii. face plates with elongated slots and 'T' slots
- iii. face plates with only elongated radial slots

A:-only (i and ii)

B:-only (ii and iii)

C:-only (i and iii)

D:-All of the above (i, ii and iii)

Correct Answer:- Option-D

Question77:-Which one of the following lathe accessories can be clamped at any desired position on the lathe bed by the base clamping screw?

A:-Driving plates

B:-Fixed steady rest

C:-Lathe carrier

D:-Travelling steady rest

Correct Answer:- Option-B

Question78:-Which type of lathe centre is used while facing the job without disturbing the setting?

A:-Tipped centre

B:-Female centre

C:-Half centre

D:-Swivel 'V' centre

Correct Answer:- Option-C

Question79:-Which of the following mechanism is/are correct about the working of lever type dial test indicator?

- i. Quick return mechanism
- ii. Rack and pinion mechanism
- iii. Lever and scroll mechanism

A:-only (i and ii)

B:-only (ii)

C:-only (i and iii)

D:-only (iii)

Correct Answer:- Option-D

Question80:-Which of the following tool post is easy for setting the tool centre height of the tool in a lathe?

A:-Universal tool post

B:-Single way tool post

C:-British type tool post

D:-Indexing type tool post

Correct Answer:- Option-A

Question81:-Which method is used to lubricate the head stock in modern lathe?

A:-Wick feed

B:-Gravity feed

C:-Splash lubrication

D:-Oil pump method

Correct Answer:- Option-D

Question82:-Which cutting fluid is used for turning copper?

A:-Kerosene

B:-Soluble oil

C:-Lard oil

D:-Mineral oil

Correct Answer:- Option-B

Question83:-What is the isolating medium to prevent rapid cooling after brazing a tipped tool?

A:-Water

B:-Mica powder

C:-Oil

D:-Wet sand

Correct Answer:- Option-B

Question84:-Which mandrel is manufactured in order to reduce the number of mandrels?

A:-Threaded mandrel

B:-Solid mandrel

C:-Stepped mandrel

D:-Gang mandrel

Correct Answer:- Option-C

Question85:-What type operation is knurling?

A:-Turning

B:-Forming

C:-Shearing

D:-Pressing

Correct Answer:- Option-B

Question86:-In which country the automatically controlled factory was introduced before two centuries?

A:-In Japan

B:-In Germany

C:-In America

D:-In Europe

Correct Answer:- Option-D

Question87:-What do you mean by ATC preparation of part programming axis convention in CNC machine?

A:-Alternate tool centre

B:-Automatic tool changer

C:-Automatic tool checking

D:-Axillary tool checking

Correct Answer:- Option-B

Question88:-Which one of the direction shown by thumb finger in right hand coordinate system?

A:-Direction of spindle rotation

B:-Direction of 'Y' axis

C:-Direction of 'Z' axis

D:-Direction of 'X' axis

Correct Answer:- Option-D

Question89:-Which axis the spindle moves on vertical machining centre?

A:-Z axis

B:-Y axis

C:-X axis

D:-B axis

Correct Answer:- Option-A

Question90:-What do you mean by MPG?

A:-Manual program graphics

B:-Manually pulse generator

C:-Manual procedure to geometrical values

D:-Manually procure the digital graphics

Correct Answer:- Option-B

Question91:-What is the basis of absolute co-ordinate point?

A:-Based on the last point entered

B:-Based on the work end point

C:-Based on the tool nose radius

D:-Based on the origin (0.0)

Correct Answer:- Option-D

Question92:-How the points are marked in polar co-ordinate system?

A:-Pole as O and polar axis as L

B:-Pole as X and polar axis as Y

C:-Pole as Z and polar axis as C

D:-Pole as B and polar axis as C

Correct Answer:- Option-A

Question93:-Which code is suitable for multiple turning cycle in FANUC CNC control system?

A:-G 92

B:-G 96

C:-G 71

D:-G 94

Correct Answer:- Option-C

Question94:-Which mode is used to move the turret in micron level?

A:-Auto mode

B:-Jog mode

C:-MDI mode

D:-Incremental jog mode

Correct Answer:- Option-D

Question95:-Which is the operation in point to point system?

- A:-Drilling
- B:-Parting
- C:-Grooving
- D:-Facing

Correct Answer:- Option-A

Question96:-Which of the following feed back devices can sense both speed and position?

- A:-Resolver
- B:-Tacho meter
- C:-Encoder
- D:-Motor

Correct Answer:- Option-C

Question97:-What is the purpose of MDI mode?

- A:-For program execution
- B:-Move the axis by manually
- C:-Cross checking of the program graphically
- D:-Mounting of diagonal impact

Correct Answer:- Option-B

Question98:-What is the M in the ISO designation for the lathe tool holder?

- A:-Holder length
- B:-Shank length
- C:-Shank width
- D:-Holder shape

Correct Answer:- Option-A

Question99:-What is 'N' in ISO standard for specifying tool insert, for example CNMG120408?

- A:-Shape of the insert
- B:-Tolerance
- C:-Geometrical features
- D:-Relief angle

Correct Answer:- Option-D

Question100:-What will be displayed on the screen which simulation?

- A:-Entire part program
- B:-Graph of the component
- C:-Work offsetting details
- D:-All tool geometrical values

Correct Answer:- Option-B