

PROVISIONAL ANSWER KEY

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Exam: Maintenance Assistant (Mechanical)
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Department: Foam Mattings India Ltd
Alphacode: A

Question1:-The weight of Engineer's hammer is varies from

- A:-100 gm - 1000 gm
- B:-125 gm - 1500 gm
- C:-200 gm - 2000 gm
- D:-250 gm - 2500 gm

Correct Answer:- Option-B

Question2:-Bench vice is specified by

- A:-Length of jaws
- B:-Maximum opening of jaws
- C:-Overall length of vice
- D:-Width of jaws

Correct Answer:- Option-D

Question3:-Which vice is used for forging work ?

- A:-Tool maker's vice
- B:-Leg vice
- C:-Machine vice
- D:-Bench vice

Correct Answer:- Option-B

Question4:-What is the expansion of MKS System ?

- A:-Millimeter, Kilogram and Second system
- B:-Metre, Kelvin and Second system
- C:-Millimetre Kilo Pascal and Second system
- D:-Metre, Kilogram and Second system

Correct Answer:- Option-D

Question5:-How much is the accuracy of try square ?

- A:-0.001 mm per 10 mm length
- B:-0.01 mm per 10 mm length
- C:-0.002 mm per 10 mm length
- D:-0.02 mm per 10 mm length

Correct Answer:- Option-C

Question6:-Which type of rule is used in pattern making ?

- A:-Shrink rule
- B:-Short rule
- C:-Narrow rule
- D:-Hook rule

Correct Answer:- Option-A

Question7:-How many seconds are in one degree ?

- A:-60 seconds
- B:-360 seconds
- C:-6000 seconds
- D:-3600 seconds

Correct Answer:- Option-D

Question8:-The least count of steel rule is

- A:-0.05 mm
- B:-0.50 mm
- C:-0.1 mm
- D:-1 mm

Correct Answer:- Option-B

Question9:-The graduations are marked in Bevel protractor are

- A:-0° - 90°
- B:-0° - 180°
- C:-0° - 360°
- D:-0° - 90° and 90° - 0° and so on

Correct Answer:- Option-B

Question10:-What is the unit of Temperature in British system ?

- A:-Fahrenheit
- B:-Celsius
- C:-Kelvin
- D:-Rankine

Correct Answer:- Option-A

Question11:-Which of the following surface plate retain their accuracy even if the surface is scratched ?

- A:-Cast iron
- B:-Mild steel
- C:-Granite
- D:-Alloy steel

Correct Answer:- Option-C

Question12:-Combination set consist of

- A:-Square head, centre head, protractor head and rule
- B:-Centre square, bevel protractor, steel rule and centre head
- C:-Try square, protractor head, centre head and rule
- D:-Square head, protractor head, dead centre and rule

Correct Answer:- Option-A

Question13:-Which marking media will give very clear lines but take more time for drying than other marking media ?

- A:-White wash
- B:-Cellulose lacquer
- C:-Copper sulphate
- D:-Prussian blue

Correct Answer:- Option-D

Question14:-What is the value of one Micron ?

- A:-1/10 mm
- B:-1/100 mm
- C:-1/1000 mm
- D:-1/10000 mm

Correct Answer:- Option-C

Question15:-How the Divider is specified ?

- A:-Overall length of divider
- B:-Overall length except peg
- C:-Distance from the point to the centre of the fulcrum roller of the leg
- D:-Distance from the point to the peg

Correct Answer:- Option-C

Question16:-Which of the following statement is/are correct about the use of Universal Surface gauge ?

- I. Scribing lines parallel to a curved edges
- II. Setting jobs on machine parallel to Datum surface

III. Check the height and parallelism of jobs
IV. Mark the lines at any angle and mark parallel lines

A:-I and II

B:-II and III

C:-I and IV

D:-III and IV

Correct Answer:- Option-B

Question17:-Which grades of angle plates are used for very accurate tool room type work ?

A:-Grade I

B:-Grade II

C:-Grade A

D:-Grade B

Correct Answer:- Option-A

Question18:-Which Caliper is used to find the centre of round rod ?

A:-Transfer Caliper

B:-Vernier Caliper

C:-Jenney Caliper

D:-Spring Caliper

Correct Answer:- Option-C

Question19:-Point angle of prick punch is

A:-30°

B:-60°

C:-90°

D:-120°

Correct Answer:- Option-A

Question20:-Which material is used for making Scriber ?

A:-Cast steel

B:-Mild steel

C:-High speed steel

D:-High carbon steel

Correct Answer:- Option-D

Question21:-Ferrule is a

A:-End opposite to tang

B:-Part fitted to the tang for holding the file

C:-Protective metal ring to prevent cracking of the handle

D:-Narrow an thin part of a file which fits into the handle

Correct Answer:- Option-C

Question22:-The curved cut files are available only in a _____ shape.

A:-Flat

B:-Curved

C:-Half round

D:-Round

Correct Answer:- Option-A

Question23:-In 150 mm length of Bastard file, how many number of cuts over the length of 10 mm ?

A:-8

B:-13

C:-17

D:-24

Correct Answer:- Option-B

Question24:-Most files have the faces slightly bellied length wise. This is known as _____ of a file.

- A:-Concavity
- B:-Convexity
- C:-Eccentricity
- D:-None of the above

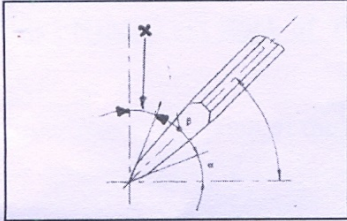
Correct Answer:- Option-B

Question25:-What is the pitch of hacksaw blade used to cut brass tubing, copper, iron pipe etc. ?

- A:-0.8 mm
- B:-1.4 mm
- C:-1.8 mm
- D:-1 mm

Correct Answer:- Option-D

Question26:-What is the name of angle marked x shown in figure given below ?



- A:-Point angle
- B:-Rake angle
- C:-Clearance angle
- D:-Helix angle

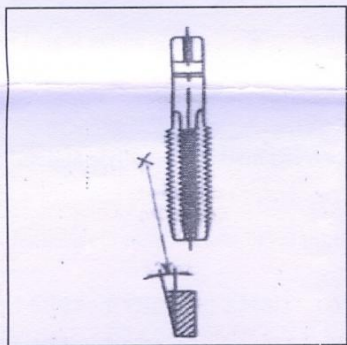
Correct Answer:- Option-B

Question27:-_____ is the distance a drill advances into the work in one complete rotation.

- A:-Cutting speed
- B:-RPM
- C:-Feed
- D:-Diameter of the drill

Correct Answer:- Option-C

Question28:-What is the taper angle of second tap shown in figure given below ?



- A:-4°
- B:-12°
- C:-10°
- D:-20°

Correct Answer:- Option-C

Question29:-_____ is an operation of bevelling the end of a drilled hole.

- A:-Spot facing
- B:-Counterboring
- C:-Countersinking

D:-Reaming

Correct Answer:- Option-C

Question30:-Which gauge is used to check the radius formed on the edges of an components ?

A:-Plug gauge

B:-Ring gauge

C:-Slip gauge

D:-Radius gauge

Correct Answer:- Option-D

Question31:-In metric micrometer the pitch of the spindle thread is _____

A:-0.01 mm

B:-0.1 mm

C:-0.5 mm

D:-1 mm

Correct Answer:- Option-C

Question32:-The micrometer works on the principle of _____

A:-Rack and pinion

B:-Screw and nut

C:-Sliding

D:-None of the above

Correct Answer:- Option-B

Question33:-In a Dial Caliper, the Dial hand is operated by _____ system on the beam.

A:-Screw and nut

B:-Sliding

C:-Rack and pinion

D:-None of the above

Correct Answer:- Option-C

Question34:-In vernier height gauge _____ is used on the movable jaw, when it is required to take measurement from the lower place.

A:-Straight scriber

B:-Bent point scriber

C:-Off set scriber

D:-None of the above

Correct Answer:- Option-C

Question35:-What is the least count of vernier bevel protractor ?

A:-1 MSD - 1 VSD

B:-2 MSD - 1 VSD

C:-1 VSD - 2 MSD

D:-2 VSD - 1 MSD

Correct Answer:- Option-B

Question36:-Which grade slip gauge is used for precision tool room applications ?

A:-Grade I

B:-Grade II

C:-Grade '0'

D:-Grade '00'

Correct Answer:- Option-A

Question37:-What is the purpose of holes drilled across sine bar ?

A:-Easy for handling

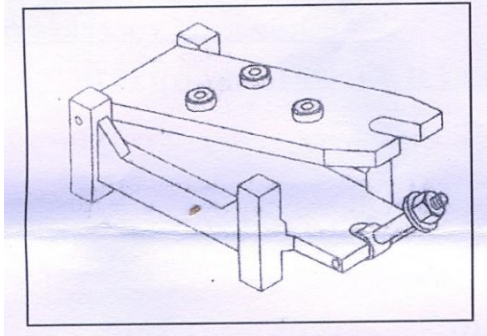
B:-For decorative purpose

C:-For reducing the weight and also it facilitate clamping of sine bar on angle plate

D:-For accommodate round bars

Correct Answer:- Option-C

Question38:-What is the name of jig shown in figure given below ?



A:-Trunnion Jig

B:-Drill Jig

C:-Post Jig

D:-Box Jig

Correct Answer:- Option-B

Question39:-The ability to select components for assembly at random and fit them together within proper tolerance is called _____

A:-Selective Assembly

B:-Non selective

C:-Interchangeability

D:-Necessity of the limit system

Correct Answer:- Option-C

Question40:- _____ is the difference between the maximum limit of size and the minimum limit of size.

A:-Deviation

B:-Tolerance

C:-Limit of size

D:-Upper deviation

Correct Answer:- Option-B

Question41:-The included angle of BA thread is

A:-55°

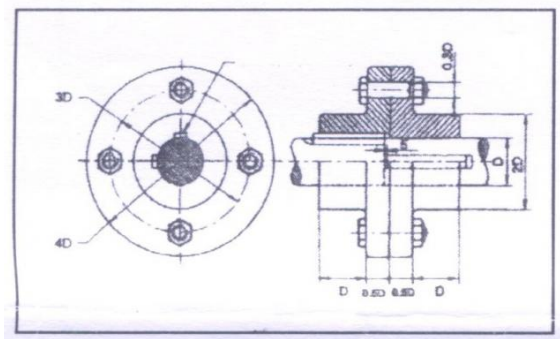
B:-45°

C:-60°

D:- $47\frac{1}{2}^\circ$

Correct Answer:- Option-D

Question42:-What is the name of coupling show in figure given below ?



A:-Muff coupling

B:-Flange coupling

C:-Pin bush coupling

D:-Chain coupling

Correct Answer:- Option-B

Question43:-If two bevel gears are symmetrical to each other and transmit motion at right angle such gears may be called

- A:-Spur gear
- B:-Helical gear
- C:-Mitre gear
- D:-Worm shaft and worm gear

Correct Answer:- Option-C

Question44:-The belt turns on a pulley it tends to stretch on the contact area of the driving pulley and shorten on the driven pulley. This localized movement of the belt is a direct result of elastic stretch and is known as

- A:-Creep
- B:-Slip
- C:-Arc of contact
- D:-None of the above

Correct Answer:- Option-A

Question45:-Which belt is generally used, when the distance between the shaft is too short ?

- A:-V belt
- B:-Flat belt
- C:-Link belt
- D:-Ribbed belt

Correct Answer:- Option-A

Question46:-What is the name of bearing used, when the loading is parallel to the bearing axis ?

- A:-Thrust bearing
- B:-Split bearing
- C:-Adjustable slide bearing
- D:-Radial bearing

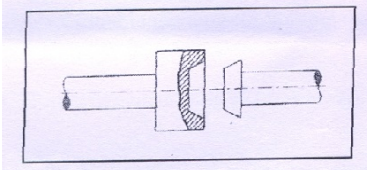
Correct Answer:- Option-A

Question47:-Which key is used for transmitting light torque ?

- A:-Feather key
- B:-Woodruff key
- C:-Round key
- D:-Flat saddle key

Correct Answer:- Option-B

Question48:-What is the name of clutch shown in figure given below ?



- A:-Air clutch
- B:-Multiplate clutch
- C:-Cone clutch
- D:-Over riding clutch

Correct Answer:- Option-C

Question49:-In which tooth type lock washers are used, when the mounting holes are over size ?

- A:-Internal type
- B:-Internal and external type
- C:-External type
- D:-Countersunk type

Correct Answer:- Option-B

Question50:-Which alloy is used to make the bearing for work at higher temperature and have higher load carrying capacity ?

- A:-Aluminium alloy
- B:-Copper and lead alloy
- C:-Cadmium based alloy
- D:-Sintered alloy

Correct Answer:- Option-C

Question51:-The process which helps in producing a fine grain for uniformity of structure and for improved mechanical properties is known as

- A:-Tempering
- B:-Annealing
- C:-Hardening
- D:-Normalizing

Correct Answer:- Option-D

Question52:-Which one of the following is an alloy of carbon and iron in which carbon is in combined state ?

- A:-Steel
- B:-Wrought iron
- C:-Cast iron
- D:-Pig iron

Correct Answer:- Option-A

Question53:-Carbon dissolved in the iron to form a solid solution is called

- A:-Cementite
- B:-Ferrite
- C:-Pearlite
- D:-Austenite

Correct Answer:- Option-B

Question54:-If the hot steel is cooled rapidly the austenite changes into a new structure called Martensite which property of steel increases

- A:-Hardness
- B:-Ductility
- C:-Malleability
- D:-Brittleness

Correct Answer:- Option-A

Question55:-Which cast iron has the ability to reduce vibration and tool chattering in machine tools ?

- A:-Grey cast iron
- B:-White cast iron
- C:-Nodular cast iron
- D:-Malleable cast iron

Correct Answer:- Option-A

Question56:-What is the name of the heat treatment process for reheating the hardened steel to a temperature below 400 degrees centigrade followed by cooling ?

- A:-Annealing
- B:-Hardening
- C:-Tempering
- D:-Normalizing

Correct Answer:- Option-C

Question57:-Why is the tempering process carried out ?

- A:-To add cutting ability
- B:-To relieve stress and strain
- C:-To refine the grain structure
- D:-To regulate the hardness and toughness

Correct Answer:- Option-D

Question58:-What is the purpose of brine solution, water, oil and air used in the heat treatment process ?

- A:-Soaking
- B:-Quenching

C:-Heating

D:-Cooling

Correct Answer:- Option-B

Question59:-Name the property of metal that withstand shock or impact

A:-Tenacity

B:-Hardness

C:-Brittleness

D:-Toughness

Correct Answer:- Option-A

Question60:-Which metal is used for magnets and ball bearing ?

A:-Cobalt

B:-Cadmium

C:-Vanadium

D:-Molybdenum

Correct Answer:- Option-A

Question61:-Which one of the following is the function of tuyers in the forge ?

A:-Permits cooled air

B:-Control smokes and sparks

C:-Act as outlet of products of combustion

D:-No function

Correct Answer:- Option-C

Question62:-Which among the following is a term used in forging in which the thickness of the job is increased by decreasing the length ?

A:-Drawing out

B:-Punching

C:-Drifting

D:-Jumping

Correct Answer:- Option-D

Question63:-Forging is done when the metal is in

A:-Liquid condition

B:-Plastic condition

C:-Elastic condition

D:-Plasma condition

Correct Answer:- Option-B

Question64:-Which one of the following operations are performed when bottom swage and top fuller used together ?

A:-Hollowing

B:-Drawing out

C:-Jumping

D:-Bending

Correct Answer:- Option-A

Question65:-Cast iron cannot be forged because it has the property of

A:-Softness

B:-Stiffness

C:-Toughness

D:-Brittleness

Correct Answer:- Option-D

Question66:-Which among the following is a forging defect which occurs during upsetting process when faces of the stock become square ?

A:-Buckling of stock

B:-Folds

C:-Surface and internal cracks

D:-None of the above

Correct Answer:- Option-A

Question67:-Which one of the following is used for bending hooks of flat and round steel bars ?

- A:-Bending links
- B:-Bending blocks
- C:-Bolster swages
- D:-Fork tools

Correct Answer:- Option-C

Question68:-The instrument used to measure high temperature in furnace is

- A:-Thermometer
- B:-Barometer
- C:-Calorimeter
- D:-Pyrometer

Correct Answer:- Option-D

Question69:-Fullers are used for

- A:-Necking and grooving
- B:-Forming heads of rivets, bolts etc.
- C:-Making shoulders with right angles
- D:-Drawing down

Correct Answer:- Option-A

Question70:-The process of local thinning down of a stock by forging operation is called as

- A:-Setting down
- B:-Drawing down
- C:-Swaging out
- D:-Punching

Correct Answer:- Option-A

Question71:-Which tool used for closing down the edges of plate and head of rivet ?

- A:-Fullering tool
- B:-Caulking tool
- C:-Punch
- D:-Both 1 and 2

Correct Answer:- Option-B

Question72:-Which hammer is used for preparing for wire edge on sheet metal work ?

- A:-Ball peen hammer
- B:-Planning hammer
- C:-Creasing hammer
- D:-Riveting hammer

Correct Answer:- Option-C

Question73:-Which stake is useful for making sharp bends, folding edges of sheet metal ?

- A:-Funnel stake
- B:-Hatchet stake
- C:-Horse stake
- D:-Grooving stake

Correct Answer:- Option-B

Question74:-Pittsburgh seam is also known as

- A:-Collar lock
- B:-Hammer lock
- C:-Flanged lock
- D:-Dovetail lock

Correct Answer:- Option-B

Question75:-Allowance for paned down joints is

A:-3W + 3T

B:-W + 2T

C:-2W + 3T

D:-2W + 2T

Correct Answer:- Option-D

Question76:-What is the angle of counter sinking for riveting ?

A:-75°

B:-90°

C:-118°

D:-120°

Correct Answer:- Option-A

Question77:-The distance from the edge of the plate to the center of the nearest rivet (diameter of rivet is d) is

A:-3d

B:-2d

C:-1.5d

D:-2d + 6

Correct Answer:- Option-C

Question78:-Which a statement is/are correct about hand lever punch ?

i. For marking holes when too much holes are to be punched

ii. For punching small holes in thin metal sheet

iii. The tool consists of a punch and die

iv. To mark the center of holes to be drilled

A:-Only i and iii

B:-Only ii and iv

C:-Only ii and iii

D:-Only i and ii

Correct Answer:- Option-A

Question79:-Which method of pattern layout is used for prisms or cylinders ?

A:-Triangulation

B:-Radial line

C:-Parallel line

D:-Geometrical construction

Correct Answer:- Option-C

Question80:-Choose the correct matching sequence of the following

- | | |
|------------------|---|
| 1. Single seam | a. Used to join the bottom of a container to its body |
| 2. Double seam | b. Used to join a bottom to vertical bodies of various shapes |
| 3. Dovetail seam | c. Formed edge is bent upward against the body |
| 4. Flanged seam | d. Used to join flat plate to a cylindrical piece |

A:-1-c, 2-a, 3-d, 4-b

B:-1-d, 2-b, 3-c, 4-a

C:-1-b, 2-a, 3-d, 4-c

D:-1-b, 2-c, 3-d, 4-a

Correct Answer:- Option-D

Question81:-Which type shade number of filter colour glass is used for manual arc welding up to 100 amperes ?

A:-10 - 11

B:-12 - 14

C:-8 - 9

D:-5 - 7

Correct Answer:- Option-C

Question82:-What is the point where the weld face joints the parent metal ?

A:-Weld face

B:-Toe of weld

C:-Fusion face

D:-Weld junction

Correct Answer:- Option-B

Question83:-What is the range of coating factor for medium coated electrodes ?

A:-2.20 to 2.50

B:-1.60 to 2.20

C:-1.40 to 1.50

D:-1.25 to 1.30

Correct Answer:- Option-C

Question84:-What are the substances used to make the welds stronger ?

A:-Deoxidizers

B:-Gas forming substances

C:-Slag forming substances

D:-Arc stabilising substances

Correct Answer:- Option-A

Question85:-Which size cutting nozzle is used for gas cutting 19 - 100 mm thickness plate ?

A:-0.8 mm

B:-2.4 mm

C:-1.2 mm

D:-1.6 mm

Correct Answer:- Option-D

Question86:-Which statement is/are correct about mild steel electrode ?

i. It contain silicon above 0.5%

ii. It contain carbon 0.1 to 0.3%

iii. During welding the electrode will tend to get red hot quickly

A:-Only i and iii

B:-Only i and ii

C:-Only ii and iii

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

Correct Answer:- Option-B

Question87:-The percentage of carbon and hydrogen in acetylene gas is

A:-Carbon 91.3% and Hydrogen 8.7%

B:-Carbon 92.3% and Hydrogen 7.7%

C:-Carbon 93.3% and Hydrogen 6.7%

D:-Carbon 94.3% and Hydrogen 5.7%

Correct Answer:- Option-B

Question88:-Which statement is correct about the rightward welding techniques ?

i. The rightward technique is used to welding steel having thickness above 5 mm

ii. The rightward technique is used to welding steel having thickness up to 5 mm

iii. There is more heat concentration for fusion, and hence useful for welding thick jobs

iv. There is less heat concentration for fusion, and hence useful for welding thin jobs

A:-Only i

B:-Only ii and iv

C:-Only i and iii

D:-Only ii

Correct Answer:- Option-C

Question89:-In thermit welding, thermit is a mixture of

A:-Iron oxide and Aluminium

B:-Zinc oxide and Aluminium

C:-Charcol and Iron oxide

D:-Charcoal, Iron oxide and Aluminium

Correct Answer:- Option-A

Question90:-The straight line which bisecting two toe points is known as

A:-Toe line

B:-Toe of weld

C:-Fillet line

D:-Miter line

Correct Answer:- Option-D

Question91:-The connection between the lead screw and carriage is made by

A:-Slotted nut

B:-Changing gears

C:-Castile nut

D:-Split nut

Correct Answer:- Option-D

Question92:-The micrometers dial on the cross slide hand wheel, with the accuracy of

A:-0.5 mm

B:-0.05 mm

C:-0.2 mm

D:-0.02 mm

Correct Answer:- Option-B

Question93:-In lathe, which gear mechanism is used for changing the direction of rotation of the lead screw and feed shaft ?

A:-Change gear unit

B:-Quick change gear box

C:-Apron mechanism

D:-Tumbler gear

Correct Answer:- Option-D

Question94:-Which statement is/are correct about compound rest method ?

i. Both hand feed and power feed can be given

ii. Steep tapers can be produced

iii. Threads on the taper portion can not be produced

iv. Both internal and external tapers can be produced

A:-Only i and iii

B:-Only i and ii

C:-Only ii and iv

D:-Only iii and iv

Correct Answer:- Option-C

Question95:-Which center is used to support the end of the job where no countersink hole is permitted ?

A:-Insert type center

B:-Half center

C:-Female center

D:-Tipped center

Correct Answer:- Option-C

Question96:-What is the formula used to find taper angle by tail stock offset method ?

A:-Set-over = $(D-d)L/2l$

B:-Set-over = $(D-d)/2L$

C:-Set-over = $(D-d)/2L$

D:-Set-over = $(D-d)/l$

Correct Answer:- Option-A

Question97:-Which one of the following standard taper is provided in the tailstock barrel ?

A:-Metric taper

B:-Morse taper

C:-Jarno taper

D:-Brown and Sharpe taper

Correct Answer:- Option-B

Question98:-Which statement is/are correct about four jaw chuck ?

i. Separate internal and external jaws are available

ii. Each jaws has square thread provided

iii. There is no loss of accuracy as the chuck gets worn out

iv. Jaws move upward or downward, depending up on the rotation of crown wheel

A:-Only i and iii

B:-Only i and iv

C:-Only ii and iii

D:-Only iii and iv

Correct Answer:- Option-C

Question99:-Which work holding device are serve as a fixture ?

A:-Four jaw chuck

B:-Catch plate

C:-Face plate

D:-All of the above

Correct Answer:- Option-C

Question100:-Function of clearance angle in a lathe cutting tool is

A:-Reduce heat generation

B:-Increase the tool life

C:-Allows the chip to flow freely

D:-Avoid rubbing of tool with the work

Correct Answer:- Option-D