# Manufacturing Engineering Questions & Answers – Introduction to Lathe

1. End of the work piece can be supported by using
a) Headstock
b) Tailstock
c) Tool Post
d) None of the mentioned

Answer: b

Explanation: Tailstock is used to support the end of the work piece in lathe machine.

2. Which of the following position of tumbler gear lever set will move carriage towards headstock of the lathe?
a) Up
b) Middle
c) Down
d) None of the mentioned

Answer: a

Explanation: Tumbler gear lever in up position moves the carriage towards the headstock in a lathe machine.

3. Which of the following can be used to reverse the direction of lead screw relative to the direction of spindle movement?
a) Speed lever
b) Feed Lever
c) Tumbler gear lever
d) Friction clutch

Answer: c

Explanation: Tumbler gear lever is used to reverse the direction of lead screw relative to the direction of spindle movement in lathe machine.

4. Which of the following arrangement is used in movement of carriage along the ways?
a) Rack and pinion
b) Spindle mechanism
c) Crank and slotted lever mechanism

d) None of the mentioned

Answer: a

Explanation: Rack and pinion mechanism is used in movement of carriage by flywheel. Rack is gear of finite diameter.

5. Which of the following have live centre?
a) Tail stock
b) Headstock
c) Tool post
d) None of the mentioned

Answer: b

Explanation: Head stock has live centre and it is called live because spindle rotates here and is not at rest during machining.

6. Which of the following is also known as Puppet head?
a) Headstock
b) Tailstock
c) Tool Post
d) None of the mentioned

Answer: b

Explanation: Tailstock is also known as puppet head. It is at the back part of lathe machine.

7. Which of the following part of lathe slides along bed ways?
a) Cross slide
b) Saddle
c) Compound rest
d) None of the mentioned

Answer: b

Explanation: Saddle slides along bed ways in lathe machine during the process of machining.

8. Which of the following part of lathe move in a direction normal to the axis of spindle?
a) Cross slide
b) Saddle
c) Compound rest
d) None of the mentioned

Answer: a

Explanation: Cross slide move in a direction normal to the axis of spindle during the process of machining in lathe machine.

9. Which of the following is used to give power feed during cutting of threads?
a) Rack and pinion
b) Planer mechanism
c) Quick return mechanism
d) Using spilt nut

Answer: d

Explanation: Split nut are used to engage lead screw to give power feed in lathe during the process of machining in lathe machine.

10. Which of the following serves as housing for driving pulley, and back gears?
a) Headstock
b) Tailstock
c) Tool Post
d) None of the mentioned

Answer: b

Explanation: Headstock has driving pulleys and back gears in lathe machine. Headstock also carries spindle and chuck for holding the work piece.

11. The tail stock set over required to turn a taper on the entire length of a workpiece having diameters D and d is
a) D – d/2L
b) D – d/L
c) D – d/2
d) D – d

Answer: b

Explanation: None

12. For turning internal tapers, the suitable method is
a) by a form tool
b) by setting over the tail stock
c) by a taper turning attachment
d) none of the mentioned

Answer: c

Explanation: None

13. The tail stock set over method of taper turning is preferred for
a) internal tapers
b) small tapers
c) long slender tapers
d) steep tapers

Answer: c

Explanation: None

# Lathe-1

1. Which of the following is correct about series of range of speed in simple lathe?
a) Geometric progression
b) Arithmetic progression
c) Logarithmic progression
d) Harmonic progression

Answer: a

Explanation: Geometric progression is the series of numbers having common ratio. Range of speed follow geometric progression in simple lathe.

2. Which of the following is the correct basis in designing feed gear box for screw cutting?
a) Geometric progression
b) Arithmetic progression
c) Logarithmic progression
d) Harmonic progression

Answer: a

Explanation: Geometric progression is the series of numbers having common ratio. Feed gears box have ranges following geometric progression.

3. If cutting tool travel 1000mm in the direction of feed motion with work piece rotational speed of 500 rpm and feed rate of 0.2mm/rev, machining time in minutes will be
a) 2

b) 6

c) 8

d) 10

Answer: d

Explanation: Use t=L/ FN) where 't' is time, "L' is effective length, 'F' is feed and 'N' is number of revolution per second.

4. Facing of work piece of diameter 72mm is need to be done at spindle speed of 80 rev per min at cross feed of 0.3mm/rev. The time required in minute for facing operation will be

a) 2

b) 1.5

c) 2.5

d) 3

Answer: b

Explanation: Time required for machining is given by, t=L/ FN) where 't' is time, "L' is effective length, 'F' is feed and 'N' is number of revolution per second.

5. Compound rest swiveling method in taper turning operation is most suitable for

a) Long jobs with small taper angles

b) Short jobs with small taper angles

c) Short jobs with steep taper angles

d) Long jobs with steep taper angles

Answer: c

Explanation: Compound rest swiveling method gives less space and less revolution and hence in taper turning operation it is most suitable for Short jobs with steep taper angles.

6. In which of the following, tail stock method of taper turning operation will be preferred more?

a) Internal tapers

b) Steep tapers

c) Small tapers

d) Long slender tapers

Answer: d

Explanation: For long slender tapers, tail stock over method is most suitable because tail stock method give large space and large taper angle also.

7. Which of the followings is the correct type of threads used in lead screw having half nut in lathe which is free to rotate in both directions?
a) ACME threads
b) Buttress threads
c) Whitworth threads
d) V-threads

Answer: a

Explanation: ACME threads have greater efficiency than other profiles of threads and hence are used in lead screw.

8. Which of the following is used to produce quality screw threads?
a) Thread casting
b) Thread cutting with single point tool
c) Thread milling ad cutting with single point tool
d) Thread chasing

Answer: d

Explanation: Quality screw threads are produced by using thread chasing, which is a very precise operation.

9. Which of the following can produce both external as well as internal threads?
a) Die threading with self-opening die heads
b) Thread tapping with taps
c) Thread milling and multiple-thread cutters
d) Thread chasing with multiple-rib chasers

Answer: c

Explanation: Thread milling and multiple thread cutters are generally used for production of internal and external threads.

10. In surface finishing operation one should use a sharp tool with a _____ feed and _____ Speed of rotation of the job.
a) Minimum, minimum
b) Minimum, maximum
c) Maximum, maximum
d) Maximum, minimum

Answer: b

Explanation: Minimum feed and maximum speed of rotation gives very small material removal rate and hence used for surface finishing operation.

## Lathe-2

1. Which of the following is correct reason for keeping transverse force minimum in turning of slender rod?
a) To enhances surface finish
b) To increase productivity
c) To increase efficiency of cutting
d) To reduce undesired vibration during turning

Answer: d

Explanation: Vibration is the major problem during turning of slandered rod due to which it is advised to keep transverse force minimum during turning of slender rod.

2. Self centered chuck has ___ number of jaws.
a) 10
b) 1
c) 2
d) 3

Answer: 3

Explanation: 3-jaw chucks are also known as self centered chuck, hence they have 3 jaws.

3. During groove cutting in a lathe, by using a parting tool, which of the following forces are encountered?
a) Tangential
b) Radial
c) Tangential, Radial and Axial
d) Tangential and Radial

Answer: c

Explanation: Radial, axial and tangential forces are encountered during groove cutting on a lathe machine.

4. Which of the following will give best result for taper turning on internal surface?

a) Using tailstock offset method
b) Using taper attachment method
c) Using form tool
d) Using compound rest method

Answer: d

Explanation: Compound rest method is generally used for taper turning on internal surfaces.

5.Lead screw of lathe have double start thread with a pitch of 4mm. What should be the ratio of speed between lead screw and spindle for producing a single start thread of 2 mm pitch?
a) 1:2
b) 1:3
c) 1:4
d) 1:5

Answer: c

Explanation: Number of starts and pitch of lathe is directly proportional to speed of spindle required.

6. Let screw of 2mm pitch is needed to be cut on lathe machine. Lead screw of lathe has pitch of 6mm. Which of the following statement is correct?
a) Speed of lead screw>speed of spindle
b) Speed of lead screw<speed of spindle
c) Speed of lead screw=speed of spindle
d) None of the mentioned

Answer: b

Explanation: Speed of lead screw decreases in relative to speed of spindle as many times the required pitch is larger than pitch of lead screw.

7. Speed of lead screw decreases in relative to speed of spindle as many times the required pitch is larger than pitch of lead screw.
a) True
b) False

Answer: a

Explanation: Lead screw will move axially equal to pitch of lead screw after one complete rotation of lead screw.

8. Speed of lead screw decreases in relative to speed of spindle as many times the required pitch is smaller than pitch of lead screw.
a) True
b) False

Answer: b

Explanation: Lead screw will move axially equal to pitch of lead screw after one complete rotation of lead screw.

9. What are thread chasers?
a) Multipoint cutting tool
b) Single point cutting tool
c) A work holding device
d) None of the mentioned

Answer: a

Explanation: Thread chasers are multipoint cutting tool used for cutting threads.

10. Total load is distributed over all teeth, when thread cutting is done using thread chaser.
a) True
b) False

Answer: a

Explanation: Distribution of load over all teeth is the main advantage of using thread chaser for thread cutting operation.

# Lathe-3

1. Which of the following can be effectively used for holding eccentric job?
a) Four jaw chuck
b) Three jaw chuck
c) Both three jaw chuck and four jaw chuck
d) Two jaw chuck

Answer: a

Explanation: Four jaw chucks is used for holding eccentric job because of good manual balancing capability of four jaws.

2. Which of the following can be effectively used for holding irregular job?
a) Four jaw chuck

b) Three jaw chuck

c) Both three jaw chuck and four jaw chuck

d) Two jaw chuck

Answer: a

Explanation: Four jaw chucks is used for holding irregular job because of good manual balancing capability of four jaws.

3. Which of the following is also known as universal chuck?

a) Four jaw chuck

b) Three jaw chuck

c) Both three jaw chuck and four jaw chuck

d) Two jaw chuck

Answer: a

Explanation: Four jaw chucks is used for holding eccentric job as well as irregular job apart from holding symmetric job because of good manual balancing capability of four jaws.

4. Which of the following is mostly used for holding bored part of job?

a) Mandrels

b) Dogs

c) Collet

d) Angle plate

Answer: a

Explanation: Mandrels are used to hold bored job during machining process of jobs..

5. What will be the value of half taper angle in degrees if diameter of big end is 100mm and diameter of small end is 60mm for a 1m long job?

a) 3.19

b) 5.29

c) 1.14

d) 2.29

Answer: c

Explanation: Half angle can be calculated by using- tan (half taper angle) = (D-d)/ (2*L).

6. What will be the value of half taper angle in degrees if diameter of big end is 500mm and diameter of small end is 60mm for a 1m long job?

a) 31.10

b) 52.30

c) 31.10

d) 12.40

Answer: d

Explanation: Half angle can be calculated using- tan (half taper angle) = (D-d)/ (2*L).

7. What will be the value of diameter of big end in mm for tapered job if diameter of small end and length of job is 60mm and 1m respectively? Given half taper angle is equal to 12.4 degrees.

a) 600

b) 500

c) 400

d) 300

Answer: b

Explanation: Big end diameter can be calculated using- tan (half taper angle) = (D-d)/ (2*L).

8. What will be the value of diameter of small end in mm for tapered job if diameter of big end and length of job is 60mm and 1m respectively? Given half taper angle is equal to 1.14 degrees.

a) 600

b) 200

c) 100

d) 300

Answer: c

Explanation: Small end diameter can be calculated using- tan (half taper angle) = (D-d)/ (2*L).

9. During taper turning operation 100mm of smaller side diameter and 800mm of bigger side diameter was required. What will be the value of taper gradient for a job of 1m in length?

a) 15.01

b) 19.29

c) 28.35

d) 56.31

Answer: b

Explanation: Taper gradient= tan (half taper angle) = (D-d)/ (2*L).

10. During taper turning operation 100mm of smaller side diameter and 800mm of bigger side diameter was required. What will be the value of Conicity for a job of 1m in length?
a) 31.20
b) 23.20
c) 56.32
d) 38.58
Answer: d
Explanation: Conicity=2* tan (half taper angle) = (D-d)/ (*L).

## Lathe-4

1. What will be the length of job in m if diameter of big end is 100mm and diameter of small end is 60mm for a taper angle of 1.14 degree?
a) 5
b) 2
c) 7
d) 1
Answer: d
Explanation: Length be calculated by using- tan (half taper angle) = (D-d)/ (2*L) where 'D' is the external diamter, 'd' is the internal diameter, 'L' is the length of job.

2. The job of total length 300mm is tapered turned on lathe using tailstock set over method. The two diameters obtained are 80mm and 500mm and length of taper was 200mm only. Tail stock set over is equal to
a) 10
b) 15
c) 20
d) 25
Answer: b
Explanation: Tail stock set over= L*(D-d)/ (2*l), where 'D' is the external diameter, 'd' is the internal diameter, 'L' is the length of job..

3. A job of total length 800mm is tapered turned on lathe using tailstock set over method. The two diameters obtained are 450mm and 500mm and length of taper was 700mm only. Tail stock set over is equal to

a) 10.12
b) 15.32
c) 20.32
d) 28.57

Answer: d

Explanation: Tail stock set over= L*(D-d)/ (2*l), where 'D' is the external diameter, 'd' is the internal diameter, 'L' is the length of job..

4. A cast iron piece of total length 100mm is needed to be tapered for a length of 40mm using swiveling the compound rest method. Diameter of job is 20mm and smaller end have nearly zero diameter. What should the angle in degrees by which compound rest should be rotated?
a) 20.36
b) 45.21
c) 14.03
d) 5.23

Answer: c

Explanation: tan (Angle of rotation of compound rest) = (D-d)/ (2*L), where 'D' is the external diameter, 'd' is the internal diameter, 'L' is the length of job..

5. Distance measured normal to the axis of part, between crest and root of thread is known as
a) Pitch
b) Depth of threads
c) Thread angle
d) Major diameter

Answer: b

Explanation: Depth of threads is the distance measured normal to the axis of part, between crest and root of thread.

6. Distance from one point of thread to the next corresponding point is known as
a) Pitch
b) Depth of threads
c) Thread angle
d) Major diameter

Answer: b

Explanation: Pitch is the distance from one point of thread to the next corresponding point.

7. If the nut rotated in clockwise direction and advances axially, then threads present in nut are
a) Right Handed threaded
b) left handed thread
c) Right handed and left handed both
d) None of the mentioned
Answer: a
Explanation: In right handed thread nut rotated in clockwise direction and advances axially where as its reverse takes place in left handed threads.

8. Lead of nut is 2mm and has double start threads. What is the pitch of nut?
a) 1
b) 2
c) 3
d) 6
Answer: a
Explanation: Pitch=lead/number of starts.

9. A thread has number of starts equal to one. Which of the following is most correct about thread?
a) Pitch > lead
b) Pitch<<lead
c) Pitch < lead
d) Pitch=lead
Answer: d
Explanation: Pitch=lead/number of starts.

10. Let screw of 10mm pitch is needed to be cut on lathe machine. Lead screw of lathe has pitch of 6mm. Which of the following statement is correct?
a) Speed of lead screw is greater than speed of spindle
b) Speed of lead screw is less that speed of spindle
c) Speed of lead screw is equal to speed of spindle
d) None of the mentioned

Answer: a

Explanation: Speed of lead screw increase in relative to speed of spindle as many times the required pitch is smaller than pitch of lead screw.

# Capstan and Turret Lathe

1. Which of the following lathe requires very high skills for operation?
a) Centre lathe
b) Capstan lathe
c) Turret lathe
d) All of the mentioned

Answer: a

Explanation: Centre lathe is much more typical than other lathe machines and hence requires much more skills.

2. Which of the following have lowest degree of automation?
a) Centre lathe
b) Capstan lathe
c) Turret lathe
d) All of the mentioned

Answer: a

Explanation: Centre lathe has nominal degree of automation. Most of the operation are done manually and are not automatic.

3. Which of the following requires high labor cost?
a) Turret lathe
b) Capstan lathe
c) Centre lathe
d) All of the mentioned

Answer: c

Explanation: Centre lathe requires high labor cost because it requires good skills for performing operations on it.

4. Which of the following offers minimum overhead charge?
a) Turret lathe
b) Capstan lathe
c) Centre lathe

d) All of the mentioned

Answer: c

Explanation: Centre lathe requires low overhead charges due to small initial investment and low maintenance.

5. Which of the following lathe is most versatile?
a) Turret lathe
b) Capstan lathe
c) Centre lathe
d) All of the mentioned

Answer: c

Explanation: Centre lathe is capable of handling varying shape jobs and hence is most versatile.

6. Turret head in turret lathe is generally mounted on
a) Slide
b) Saddle
c) Ram
d) None of the mentioned

Answer: b

Explanation: Turret head is one of the important feature of turret lathe generally mounted on saddle.

7. Lead crew is present in turret lathe for thread cutting
a) True
b) False

Answer: b

Explanation: Thread cutting in turret lathe is generally produced by taps and die heads, hence lead screw are not present in turret lathe.

8. Lead crew is present in Capstan lathe for thread cutting
a) True
b) False

Answer: b

Explanation: Thread cutting in turret lathe is generally produced by taps and die heads, hence lead screw are not present in Capstan lathe.

9. Which of the following is not much effective for mass production i.e. production of same types of job?
a) Turret lathe
b) Capstan lathe
c) Centre lathe
d) All of the mentioned

Answer: c

Explanation: Centre lathe have low degree of automation and is good in versatile jobs production.

10. Which of the following lathe requires low maintenance?
a) Turret lathe
b) Capstan lathe
c) Centre lathe
d) All of the mentioned

Answer: c

Explanation: Turret and capstan have large number of parts, hence require large amount of maintenance.

# Introduction to Milling

1. Which of the following act as load bearing part of milling machine?
a) Base
b) Column
c) Knee
d) Table

Answer: a

Explanation: Base act as support in milling machine. It is made of very strong material and have good surface hardness.

2. Knee of milling machine is attached and slides up and down on
a) Base
b) Column
c) Knee
d) Table

Answer: a

Explanation: Knee slide over column. Column has motor drive attached to its rear side. Base can be used as reservoir for coolant.

3. Motor drive in milling machine is generally attached to
a) Base
b) Column
c) Knee
d) Table
Answer: b
Explanation: Column has motor drive attached to its rear side. Base can be used as reservoir for coolant. Knee slide over column.

4. Which of the following part of milling machine can be used for reservoir for coolant?
a) Base
b) Column
c) Knee
d) Table
Answer: a
Explanation: Base can be used as reservoir for coolant. Knee slide up and down on column.

5. Which of the following is capable of sliding up and down in milling machines?
a) Base
b) Column
c) Knee
d) Table
Answer: c
Explanation: Knee slide up and down on column. Knee adjusts table height by sliding up and down on milling machine.

6. Which of the following part movement of milling machines helps in adjustment of table height?
a) Base
b) Column
c) Knee
d) Table

Answer: c

Explanation: Knee adjusts table height by sliding up and down on milling machine. Knee slide up and down on column.

7. Which of the following part of milling machine is used to support work piece?
a) Base
b) Column
c) Knee
d) Table

Answer: d

Explanation: Table is used to support work piece. Cast iron has very good surface hardness and hence used for table of milling machine.

8. Table of milling machine is generally made up of
a) Cast iron
b) Steel
c) Aluminum
d) None of the mentioned

Answer: a

Explanation: Cast iron has very good surface hardness and hence used for table of milling machine. Table is used to support work piece.

9. Which of the following carries clamping bolt T-slots for fixing work piece?
a) Base
b) Column
c) Knee
d) Table

Answer: a

Explanation: Table is used to work piece and hence has T slots for clamping bolts. Cast iron has very good surface hardness and hence used for table of milling machine. Table is used to support work piece.

10. Which of the following is the heavy support provided at the top of both plain and universal milling machine?
a) Base
b) Over arm
c) Knee

d) Table

Answer: b

Explanation: Over arm act as heavy support provided at the top. Table is used to support work piece. Base can be used as reservoir for coolant.

# Milling Cutters

1. Which of the following milling cutters have teeth only on their periphery?
a) Plain milling cutters
b) Side milling cutters
c) End milling cutters
d) Face milling cutters

Answer: a

Explanation: Plain milling cutters have teeth only on their periphery.

2. Which of the following milling cutters have teeth on their periphery as well as on their one side or both the side?
a) Plain milling cutters
b) Side milling cutters
c) End milling cutters
d) Face milling cutters

Answer: b

Explanation: Side milling cutters have teeth on their periphery as well as on their one side or both the side. They can cut from both the sides.

3. Which of the following milling cutters have teeth on their periphery as well as on their end?
a) Plain milling cutters
b) Side milling cutters
c) End milling cutters
d) Face milling cutters

Answer: c

Explanation: End milling cutters have teeth on their periphery as well as on their end. They are used in end milling or periphery milling.

4. Which of the following milling cutters have teeth on their periphery as well as on their end face?

a) Plain milling cutters
b) Side milling cutters
c) End milling cutters
d) Face milling cutters

Answer: d

Explanation: Face milling cutters have teeth on their periphery as well as on their end face. They are used in face milling operations.

5. In face milling cutters, maximum cutting is done by the teeth on periphery.
a) True
b) False

Answer: a

Explanation: Maximum cutting in face milling cutter is generally done by the teeth on its periphery.

6. In face milling cutters, teeth on end face perform a type of finishing operation during cutting.
a) True
b) False

Answer: a

Explanation: Maximum cutting in face milling cutter is generally done by the teeth on its periphery and teeth on end face generally perform finishing operation.

7. Which of the following milling cutters can be use for cutting thin slots or for parting off operations?
a) Plain milling cutters
b) Side milling cutters
c) End milling cutters
d) Metal slitting cutters

Answer: d

Explanation: Metal slitting cutters can be use for cutting thin slots or for parting off operations.

8. Which of the following milling cutters can be used for formation of V-grooves?
a) Angle milling cutters
b) Form milling cutters

c) Gear cutters

d) Woodruff-key cutter

Answer: a

Explanation: As V is a angular shape, angle milling cutters can be used for the formation of V-grooves.

9. Woodruff Key milling cutter is a type of

a) Plain milling cutters

b) Side milling cutters

c) End milling cutters

d) Face milling cutters

Answer: c

Explanation: Woodruff Key milling cutter is a small type of End milling cutters.These are special types of cutters.

10. Which of the following milling cutter is capable of removable of large material with very small power consumption?

a) Plain milling cutters

b) Side milling cutters

c) End milling cutters

d) Face milling cutters

Answer: a

Explanation: Plain milling cutters have low power consumption but high material removal rate.

# Milling Attachment

1. Arbors in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: a

Explanation: Arbors are standard attachments used to hold cutters. They are used in milling operation to hold the milling cutters.

2. Collets in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: a

Explanation: Collets are standard attachments and used to hold milling cutters. They are used in milling operation to hold the milling cutters.

3. Adaptors in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: a

Explanation: Adaptors are standard attachments and used to hold milling cutters. They are used in milling operation to hold the milling cutters.

4. Vice circular table in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: b

Explanation: Vice circular table are standard attachments and used to hold the work piece on table. They are used in milling operation to hold the workpiece.

5. Indexing head in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: b

Explanation: Indexing head are standard attachments and used to hold the work piece on table. They are used in milling operation to hold the workpiece.

6. Tailstock in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: b

Explanation: Tailstock is standard attachment and used to hold the work piece on table. They are used in milling operation to hold the milling cutters.

7. Spiral milling attachment in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: c

Explanation: Spiral milling attachment is standard attachment and act as auxiliary spindle.

8. Vertical milling attachment in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: c

Explanation: Vertical milling attachment is standard attachment and act as auxiliary spindle.

9. Slotting milling attachment in milling machines are generally used to

a) Hold cutters

b) Hold the work piece on table

c) Act as auxiliary spindle

d) None of the mentioned

Answer: c

Explanation: Slotting milling attachment is standard attachment and act as auxiliary spindle.

10. Which of the following is not a standard milling attachment?

a) Arbors

b) Collets

c) Jigs and fixture

d) Adaptors

Answer: c

Explanation: Jigs and fixture are special attachments used in milling operations.

# Milling Operations-1

1. Which of the following milling operation can be used for machining a flat surface, parallel to the axis of cutter?
a) Slab milling
b) Face milling
c) Angular milling
d) Form milling

Answer: a

Explanation: Slab milling operation can be used for machining a flat surface, parallel to the axis of cutter. It uses face cutters.

2. Which of the following milling operation can be used for machining of flat surface which is right angle to the axis of cutter?
a) Slab milling
b) Face milling
c) Angular milling
d) Form milling

Answer: b

Explanation: Face milling operation can be used for machining a flat surface, perpendicular to the axis of cutter. It may use periphery cutters or face cutters.

3. Which of the following milling operation can be used for machining of flat surface which is at some angle to the axis of cutter?
a) Slab milling
b) Face milling
c) Angular milling
d) Form milling

Answer: c

Explanation: Angular milling operation can be used for machining a flat surface, which is at some angle to the axis of cutter.

4. Which of the following milling process is used for machining of irregular shapes?
a) Slab milling
b) Face milling
c) Angular milling
d) Form milling

Answer: d

Explanation: Form milling operation can be used for machining Irregular surface. It uses special form cutters.

5. Which of the following milling process is used for machining of two parallel vertical surface of a job simultaneously?
a) Key way milling
b) Groove milling
c) Gang milling
d) Straddle milling

Answer: d

Explanation: Straddle milling operation can be used for machining of two parallel vertical surface of a job simultaneously.

6. Which of the following milling process is used for machining of number of flat horizontal and vertical surfaces simultaneously using more than two cutters at the same time mounted on common arbor?
a) Key way milling
b) Groove milling
c) Gang milling
d) Straddle milling

Answer: c

Explanation: Gang milling uses multiple cutters. All the cutter works simultaneously during the milling operation.

7. Which of the following milling operation can be used for producing grooves in work piece?
a) Key way milling
b) Groove milling
c) Gang milling
d) Straddle milling

Answer: b

Explanation: Groove milling can be used for producing grooves in work piece.

8. Which of the following operation can be used for parting of work piece in two pieces?
a) Key way milling
b) Groove milling
c) Saw milling
d) Straddle milling

Answer: c

Explanation: Saw milling can be used for parting off operations. It uses special milling cutters.

9. In which of the following milling cutters, power requirement will increase slightly?
a) Negative rake angle tool
b) Positive rake angle tool
c) Both positive and negative rake angle tool
d) None of the mentioned

Answer: b

Explanation: Power requirement for positive rake angle tool is generally more than negative rake angle tool.

10. Which of the following cutter can be used for finishing of previously milled slot?
a) Key way milling cutter
b) Dovetail milling cutter
c) Saw milling cutter
d) Slitting milling cutter

Answer: b

Explanation: Dovetail milling cutters are used for finishing previously milled slots.

# Milling Operations-2

1. Diameter of milling cutter is 100 mm, running at 210 rpm. Cutting speed in m/min is equal to
a) 26

b) 23
c) 66
d) 78

Answer: c

Explanation: V= (3.14*D*N)/1000. V is the cutting speed, D is diameter and N is the revolution per minute.

2. Distance moved by table in mm in one minute in any direction is known as
a) Feed per minute
b) Feed per tooth
c) Feed per revolution
d) None of the mentioned

Answer: a

Explanation: Distance moved by table in mm in one minute in any direction is known as feed per minute.

3. Distance moved by table in mm during time when cutter revolve through angle corresponding to distance between two cutting edges of two adjacent teeth is known as
a) Feed per minute
b) Feed per tooth
c) Feed per revolution
d) None of the mentioned

Answer: b

Explanation: Distance moved by table in mm during time when cutter revolves through angle corresponding to distance between two cutting edges of two adjacent teeth is known as feed per tooth.

4. In a milling operation, feed per tooth is 0.020 mm and total number of teeth on milling cutter is 50. Feed per revolution in mm is equal to
a) 0.2
b) 1.4
c) 1.0
d) 0.7

Answer: c

Explanation: Feed per revolution= feed per tooth * number of teeth.

5. In a milling operation, feed per revolution is 5 mm and total number of teeth on milling cutter is 50. Feed per tooth in mm is equal to
a) 0.1
b) 0.2
c) 0.5
d) 0.05
Answer: a
Explanation: Feed per revolution= feed per tooth * number of teeth.

6. In a milling operation, feed per revolution is 0.05 mm and speed of 400 rpm. Feed per min in mm/min is equal to
a) 1
b) 2
c) 0.5
d) 0.05
Answer: b
Explanation: Feed per minute= feed per revolution* speed.

7. In a milling operation, feed per min is 10 mm and speed of 500 rpm. Feed per min in mm/min is equal to
a) 1
b) 2
c) 0.5
d) 0.04
Answer: d
Explanation: Feed per minute= feed per revolution* speed.

8. In a milling operation feed per tooth is .002 mm and number of teeth is 50 rotating with 60 rpm. Feed per min in mm/min is equal to
a) 3
b) 4
c) 6
d) None of the mentioned
Answer: c
Explanation: Feed per minute= feed per tooth* speed*number of teeth.

9. In a milling operation feed per tooth is .002 mm and number of teeth is 30 rotating with 40 rpm. Feed per min in mm/min is equal to

a) 3
b) 4.3
c) 2.4
d) None of the mentioned

Answer: c

Explanation: Feed per minute= feed per tooth* speed*number of teeth.

10. In a milling operation feed per revolution is 10 mm/rev and number of teeth is 50 rotating with 10 rpm. Feed per tooth in mm is equal to
a) .02
b) .04
c) .06
d) None of the mentioned

Answer: a

Explanation: Feed per minute= feed per tooth* speed*number of teeth.

## Milling Methods

1. In which of the following milling method cutters rotate in direction opposite to that in which work is fed?
a) Up milling
b) Climb milling
c) Down milling
d) None of the mentioned

Answer: a

Explanation: In up milling cutters rotate in direction opposite to that in which work is fed.

2. In which of the following milling method chip thickness increase gradually?
a) Up milling
b) Climb milling
c) Down milling
d) None of the mentioned

Answer: a

Explanation: In up milling chip thickness increase gradually whereas in down milling chip thickness decreases gradually.

3. In which of the following milling method chip thickness decrease gradually?
a) Up milling
b) Conventional milling
c) Down milling
d) None of the mentioned
Answer: c
Explanation: In down milling chip thickness decreases gradually whereas in up milling chip thickness increase gradually.

4. In which of the following milling method chip thickness is nearly zero at the start of cut?
a) Up milling
b) Climb milling
c) Down milling
d) None of the mentioned
Answer: a
Explanation: In up milling chip thickness increase gradually from zero at the start of cut to the maximum value at the end.

5. In which of the following milling method chip thickness is maximum at the end of cut?
a) Up milling
b) Climb milling
c) Down milling
d) None of the mentioned
Answer: a
Explanation: In up milling chip thickness increase gradually whereas in down milling chip thickness decreases gradually.

6. In which of the following milling method chip thickness is nearly zero at the end of cut?
a) Up milling
b) Conventional milling
c) Down milling

d) None of the mentioned

Answer: b

Explanation: In down milling chip thickness decrease gradually from maximum at the start of cut to the zero at the end.

7. Which of the following will result in best surface finish of job?
a) Up milling
b) Conventional milling
c) Down milling
d) None of the mentioned

Answer: c

Explanation: Down milling gives better surface finish than up milling. In down milling chip thickness decrease gradually from maximum at the start of cut to the zero at the end.

8. In which of the following methods work piece will have tendency to be pulled up?
a) Up milling
b) Climb milling
c) Down milling
d) None of the mentioned

Answer: a

Explanation: In up milling cutters rotate in direction opposite to that in which work is fed. Upward force is acted on work piece by tool.

9. In which of the following methods of milling there would be less radial pressure on the arbor?
a) Up milling
b) Conventional milling
c) Down milling
d) None of the mentioned

Answer: c

Explanation: Down milling generates less radial pressure. In down milling chip thickness decrease gradually from maximum at the start of cut to the zero at the end.

10. Which of the following milling operation will require lower force of cut?
a) Up milling

b) Climb milling

c) Down milling

d) None of the mentioned

Answer: c

Explanation: In up milling large force is generate due to opposite motion of tool and work piece. In up milling chip thickness increase gradually whereas in down milling chip thickness decreases gradually.

# Indexing by Milling

1. Dividing head are generally used for changing angular position of work piece relative to milling cutter.

a) True

b) False

Answer: a

Explanation: Indexing head are also known as dividing head and are used for changing angular position of work piece relative to milling cutter.

2. Which of the following is precision dividing head used in milling?

a) Plain dividing head

b) Universal dividing head

c) Optical dividing head

d) None of the mentioned

Answer: c

Explanation: Optical dividing heads are precision heads and are used in precision indexing work. Indexing head are also known as dividing head and are used for changing angular position of work piece relative to milling cutter.

3. Circumference of a work piece is to be divided in 8 equal division using index plate of 24 slots. Indexing ratio is equal to

a) 2

b) 3

c) 4

d) 6

Answer: b

Explanation: Indexing ratio = (number of slots on index plate)/ (number of division required). Hence indexing ratio is equal to 3.

4. Circumference of a work piece is to be divided in 10 equal division using index plate of 550 slots. Indexing ratio is equal to
a) 2
b) 3
c) 5
d) 6

Answer: b

Explanation: Indexing ratio = (number of slots on index plate)/ (number of division required). Hence indexing ratio is equal to 3.

5. Circumference of a work piece is to be divided into 60 equal divisions using simple indexing method having 40 worm wheel teeth. Indexing movement will be
a) 12 holes on 18 hole circle
b) 16 holes on 18 hole circle
c) 12 holes on 21 hole circle
d) 16 holes on 21 hole circle

Answer: a

Explanation: Indexing movement = (40)/ (number of division required).Hence indexing movement is equal to 12 holes on 18 hole circle.

6. Circumference of a work piece is to be divided into 35 equal divisions using simple indexing method having 40 worm wheel teeth. Indexing movement will be
a) 3 holes on 18 hole circle
b) 16 holes on 18 hole circle
c) 3 holes on 21 hole circle
d) 16 holes on 21 hole circle

Answer: c

Explanation: Indexing movement = (40)/ (number of division required). Hence indexing movement is equal to 3 holes on 21 hole circle.

7. Circumference of a work piece is to be divided into 6 equal divisions using direct indexing method. Indexing movement will be
a) 5

b) 2

c) 3

d) 4

Answer: d

Explanation: Indexing movement = (24)/ (number of division required). Hence indexing movement is equal to 4.

8. Circumference of a work piece is to be divided into 12 equal divisions using direct indexing method. Indexing movement will be

a) 5

b) 2

c) 3

d) 4

Answer: b

Explanation: Indexing movement = (24)/ (number of division required). Hence indexing movement is equal to 2.

9. What will be the index movement to mill a hexagon head screw by using direct indexing?

a) 2

b) 3

c) 4

d) 6

Answer: c

Explanation: For direct indexing, indexing movement = (24)/ (number of division required). Hence indexing movement is equal to 4.

10. Which one of the following is correct about compound indexing of 93 divisions?

a) 28 holes in 21 circle forward and 28 holes in 31 circle backwards

b) 26 holes in 21 circle forward and 28 holes in 30 circle backwards

c) 28 holes in 21 circle forward and 28 holes in 30 circle backwards

d) None of the mentioned

Answer: a

Explanation: For compound Indexing use $(40/N) = ((n1/N1) + - (n2/N2))$, where N denotes the number of division. Hence indexing movement is equal to 28 holes in 21 circle forward and 28 holes in 31 circle backwards.

# Geometry of Twist Drills-1

1. Part of twist drill which carries flutes and extends from dead centre up to the start of neck is known as
a) Body
b) Point
c) Lip
d) Chisel edge

Answer: a

Explanation: Body of twist drill carries flutes and extends from dead centre up to the start of neck. This is the longest part of twist drill.

2. Part of drill between neck and tang is known as
a) Body
b) Point
c) Shank
d) Chisel edge

Answer: c

Explanation: Shank of twist drill is between neck and tang.

3. Edge formed at extreme tip due to intersection of flanks, is known as
a) Body
b) Point
c) Lip
d) Chisel edge

Answer: d

Explanation: Chisel edge is formed at extreme tip due to intersection of flanks. It is at the extreme edge of chisel edge.

4. Cone shaped surface formed at the end of the flutes which contains dead centre, lips and flanks etc. is known as
a) Body
b) Point
c) Lip
d) Chisel edge

Answer: b

Explanation: Point is a Cone shaped surface formed at the end of the flutes which contains dead centre, lips and flanks etc. It is at the end part of the twist drill.

5. Main cutting part of drill is
a) Body
b) Point
c) Lip
d) Chisel edge
Answer: c
Explanation: Lip is the main cutting part of drill and is also called cutting edge. Material removed first at chisel edge.

6. Intersection of each faces and flank form
a) Body
b) Point
c) Lip
d) Chisel edge
Answer: a
Explanation: Lip is the main cutting part of drill and is also called cutting edge. It is formed at Intersection of each faces and flank.

7. Small clearance provided in diameter of twist drills adjacent to land is known as
a) Body clearance
b) Point clearance
c) Lip clearance
d) Chisel edge clearance
Answer: a
Explanation: Body clearance is provided in diameter of twist drills adjacent to land. This clearance help in the removal of material during cutting.

8. Which of the following help in reducing friction between drill and the walls of the hole in twist drills?
a) Body clearance
b) Point clearance
c) Lip clearance
d) Chisel edge clearance
Answer: a

Explanation: Body clearance reduces friction between drill and the walls. It helps in smooth drilling of holes during the operation.

9. Narrow flat surface running along flutes of twist drill on its leading edge is known as
a) Body
b) Point
c) Lip
d) Land
Answer: d
Explanation: Land is the narrow flat surface running along flutes of twist drill on its leading. It is the flat part of twist drill.

10. Narrow flat surface running along flutes of twist drill on its leading edge is known as
a) Body
b) Point
c) Lip
d) Margin
Answer: d
Explanation: Margin is the narrow flat surface running along flutes of twist drill on its leading. It is also known as land.

# Geometry of Twist Drills-2

This set of Manufacturing Engineering Questions for entrance exams focuses on "Geometry of Twist Drills".

1. Small part of conical surface of a point which is grounded to provide relief near the cutting edge in twist drills is known as
a) Lip clearance
b) Face
c) Flute
d) Flank
Answer: a
Explanation: Lip clearance is a Small part of conical surface of a point which is grounded to provide relief near the cutting edge.

2. In twist drills, curved surface of flute near the lip is known as
a) Lip clearance
b) Face
c) Flute
d) Flank
Answer: b
Explanation: Face is the curved surface of flute near the lip. Lip clearance is a Small part of conical surface of a point which is grounded to provide relief near the cutting edge.

3. In twist drills helical grooves in the body of drill is called
a) Lip clearance
b) Face
c) Flute
d) Flank
Answer: c
Explanation: Flutes are grooves in the body of drill. These grooves are helical in shape. They provide passage for chip flow.

4. Which of the following part of twist drill is responsible for making chips curl and provide passage for chip flow?
a) Lip clearance
b) Face
c) Flute
d) Flank
Answer: c
Explanation: Flutes are grooves in the body of drill. These grooves are helical in shape. They provide passage for chip flow.

5. In twist drills, curved surface on either side of dead centre, confined between lip on its on its one side and face of the flute on its other side is called
a) Lip clearance
b) Face
c) Flute
d) Flank
Answer: d

Explanation: Flank is on either side of dead centre. Curved surface on either side of dead centre, confined between lip on its on its one side and face of the flute on its other side is called flank.

6. Which of the following separate flute from each other in twist drills?
a) Web
b) Chisel edge corner
c) Outer corner
d) Neck
Answer: a
Explanation: Web is a central metal column and separates flutes.

7. In twist drills, chisel edge and lip intersect at
a) Web
b) Chisel edge corner
c) Outer corner
d) Neck
Answer: b
Explanation: Chisel edge corner is the point where chisel edge and lip intersects.

8. In twist drills, face and flank intersect at corner at the extreme of dead centre, that corner is known as
a) Web
b) Chisel edge corner
c) Outer corner
d) Neck
Answer: c
Explanation: At outer corner face and flak intersects. Face and flank intersect at corner at the extreme of dead centre, that corner is known as outer corner.

9. Which of the following part of twist drill separates body from shank?
a) Web
b) Chisel edge corner
c) Outer corner
d) Neck
Answer: d
Explanation: Neck separates body and shank.

10. In twist drills, end of tapered shank is attached to
a) Web
b) Chisel edge corner
c) Outer corner
d) Tang

Answer: d

Explanation: Tang is a flat portion with rectangular cross section provided at the end of shank.

11. In twist drills, Edge formed by intersection of body clearance and flute is known as
a) Web
b) Chisel edge corner
c) Heel
d) Neck

Answer: c

Explanation: Heel is a edge formed by intersection of body clearance and flute.

## Geometry of Twist Drills-3

1. Length measured along the axis between the dead centre and start of neck of a twist drill is known as
a) Body length
b) Flute length
c) Lip length
d) Overall length

Answer: a

Explanation: Body length is the length measured along the axis between the dead centre and start of neck. Flute length is the length measured parallel to the axis between the dead centre and the point of termination of flute near the neck.

2. Length measured parallel to the axis between the dead centre and the point of termination of flute near the neck is known as
a) Body length
b) Flute length
c) Lip length

d) Overall length

Answer: b

Explanation: Flute length is the length measured parallel to the axis between the dead centre and the point of termination of flute near the neck. Body length is the length measured along the axis between the dead centre and start of neck.

3. In twist drill, distance measured between the chisel edge corner and the outer corner is known as
a) Body length
b) Flute length
c) Lip length
d) Overall length

Answer: c

Explanation: Lip length is the length measured between the chisel edge corner and the outer corner. Body length is the length measured along the axis between the dead centre and start of neck.

4. In twist drills, length measured along the axis between the dead centre and the extreme end of tang is known as
a) Body length
b) Flute length
c) Lip length
d) Overall length

Answer: d

Explanation: Overall length is the length measured along the axis between the dead centre and the extreme end of tang. Body length is the length measured along the axis between the dead centre and start of neck.

5. Reduction in body diameter measured along radius of twist drill is known as
a) Body length
b) Lead of helix
c) Depth of body clearance
d) Core taper

Answer: c

Explanation: Depth of body clearance is reduction in body diameter measured along radius of twist drill.

6. Web taper is also known as
a) Body length
b) Lead of helix
c) Depth of body clearance
d) Core taper

Answer: d

Explanation: Core taper is the increase in core thickness. Web taper is also known as core taper.

7. Measure of increase in web thickness or core thickness, starting from the minimum at the point end to the maximum at the shank end of twist drill
a) Body length
b) Lead of helix
c) Depth of body clearance
d) Core taper

Answer: d

Explanation: Core taper or web taper is the measure of increase in web thickness or core thickness, starting from the minimum at the point end to the maximum at the shank end of twist drill.

8. Axial distance measured between two corresponding points on a flute in its one complete turn in twist drill is known as
a) Body length
b) Lead of helix
c) Depth of body clearance
d) Core taper

Answer: b

Explanation: Lead helix is the axial distance measured between two corresponding points on a flute in its one complete turn in twist drill.

9. Rake angle of drill is also as
a) Taper angle
b) Friction angle
c) Helix angle
d) None of the mentioned

Answer: c

Explanation: Helix angle of drill is also known as rake angle. Lead helix is the axial

distance measured between two corresponding points on a flute in its one complete turn in twist drill.

10. Which of the following is correct about helix angle for right hand flute drill?
a) Positive
b) Negative
c) Zero
d) None of the mentioned

Answer: a

Explanation: Helix angle have positive value for right handed flute. Helix angle of drill is also known as rake angle.

# Geometry of Twist Drills-4

1. Which of the following is correct about helix angle for left hand flute drill?
a) Positive
b) Negative
c) Zero
d) None of the mentioned

Answer: b

Explanation: Helix angle have negative value for right handed flute.

2. Which of the following is correct about helix angle for parallel flute drill?
a) Positive
b) Negative
c) Zero
d) None of the mentioned

Answer: c

Explanation: Helix angle have zero value for right handed flute.

3. Which of the following drill is most suitable for softer material?
a) 48 degree helix angle drill
b) 68 degree helix angle drill
c) 58 degree helix angle drill
d) 18 degree helix angle drill

Answer: d

Explanation: Helix angle with lower value are more suitable for soft material. Helix angle have negative value for right handed flute.

4. When the value of helix angle increases in drills, the value of required torque for rotation of drill will
a) Increase
b) Decrease
c) First increase then decrease
d) First decrease then increase

Answer: b

Explanation: Torque required is inversely proportional to helix angle of drill. When the value of helix angle increases in drills, the value of required torque for rotation of drill will increase.

5. Point angle of drill is also known as
a) Taper angle
b) Friction angle
c) Helix angle
d) Cutting angle

Answer: c

Explanation: Point angle of drill is also known as cutting angle. Small point angle drills are favored for brittle material because brittle material has low chip flow. Small point angle makes drill strong. But it reduces the passage area for chip flow.

6. Which of the following drill will be most suitable for drilling of brittle material?
a) Small point angle drill
b) Large point angle drill
c) Zero point angles drill
d) None of the mentioned

Answer: a

Explanation: Small point angle drills are favored for brittle material because brittle material has low chip flow. Small point angle makes drill strong. But it reduces the passage area for chip flow. Point angle of drill is also known as cutting angle.

7. Which of the following drill will be most suitable for drilling of ductile and soft material?
a) Small point angle drill

b) Large point angle drill

c) Zero point angles drill

d) None of the mentioned

Answer: b

Explanation: Large point angle drills are favored for ductile material because ductile material has high chip flow. Large point angle makes drill weak but increase chip flow passage area. Point angle of drill is also known as cutting angle.

8. Clearance in drill is

a) Directly proportional to chisel edge angle

b) Inversely proportional to chisel edge angle

c) Does not depend on chisel edge angle

d) None of the mentioned

Answer: a

Explanation: Greater the chisel edge angle larger will be the clearance.

9. For drilling of brass work piece, most suitable rake angle in degrees for drill will be

a) 12

b) 15

c) 0

d) -9

Answer: c

Explanation: Brass is neither brittle nor ductile and hence zero rake angle is preferred for drilling of brass work piece.

10. Which of the following is most suitable range of lip clearance angel in degrees for drilling of aluminum work piece?

a) 8-12

b) 3-2

c) 50-60

d) None of the mentioned

Answer: a

Explanation: 8 degree to 12 degree is the best range of lip clearance angle for most of the operations.

# Drilling

1. Producing circular hole in a solid metal by means of revolving tool is known as
a) Drilling
b) Reaming
c) Boring
d) Counter boring
Answer: a
Explanation: Drilling is defined as production of generally circular hole by using a revolving tool.

2. Operation of finishing previously drilled hole in order to bring it to accurate size and have good surface finish is known as
a) Drilling
b) Reaming
c) Boring
d) Counter boring
Answer: b
Explanation: Reaming is a finishing operation of drilled hole. It is done to improve surface finish of drilled hole.

3. Process of enlarging the hole size and enhancing its surface finish is known as
a) Drilling
b) Reaming
c) Boring
d) Counter boring
Answer: c
Explanation: Once the hole is drilled by using drilling operation, later the diameter of hole can be increased by using boring operation.

4. Process of enlarging only a small part of hole is also known as
a) Drilling
b) Reaming
c) Boring
d) Counter boring

Answer: d

Explanation: Once the hole is drilled by using drilling operation, later the diameter of some part of hole can be increased by using counter boring operation.

5. Operation of enlarging the end of hole to give conical shape at end is known as
a) Drilling
b) Reaming
c) Boring
d) Counter sinking

Answer: d

Explanation: Once the hole is drilled by using drilling operation, later the ends of hole can be machined into conical shape for proper adjustment of washer or other machine parts by using Counter sinking operation.

6. Operation used to form internal threads is known as
a) Drilling
b) Reaming
c) Boring
d) Tapping

Answer: d

Explanation: Tapping is the process of forming internal threads by means of tool called tap.

7. If 'D' is hole diameter, then general value for compulsory approach for through hole can be taken as
a) 0.3*D
b) 0.1*D
c) 0.5*D
d) 0.8*D

Answer: c

Explanation: For through hole, X = 0.5*D.

8. If 'D' is hole diameter, then general value for compulsory approach for blind hole can be taken as
a) 0.3*D
b) 0.1*D
c) 0.5*D

d) 0.8*D

Answer: a

Explanation: For through hole, X = 0.3*D.

9. If 20mm hole is needed to be drilled using a drill having semi point angle of 15 degrees. Value of compulsory approach in mm is
a) 37.2
b) 45.3
c) 87.1
d) 13.3

Answer: a

Explanation: X = (D/2)/ (tan (semi point angle)).

10. If 20mm hole is needed to be drilled using a drill having point angle of 15 degrees. Value of compulsory approach in mm is
a) 37.2
b) 45.3
c) 75.95
d) 13.3

Answer: c

Explanation: X = (D/2)/ (tan (semi point angle)). Semi point angle = point angle/2.

# Reaming

1. Helical groves on body of reamers are known as
a) Flutes
b) Face
c) Heel
d) Recess

Answer: a

Explanation: Flutes are helical grooves present on body of reamers. They help in better machining process using reamers.

2. In reamers, flute surface adjacent to cutting is known as
a) Flutes
b) Face
c) Heel

d) Recess

Answer: b

Explanation: Face of reamers is adjacent to cutting edge. They help in cutting during machining process using reamers.

3. Small flat surface in between cutting edge and the heel of a reamer is known as
a) Flutes
b) Face
c) Heel
d) Land

Answer: d

Explanation: Land is the small narrow surface between cutting edge and heel. They help in better machining process using reamers.

4. In reamers, edge formed by intersection of secondary clearance and flute is known as
a) Flutes
b) Face
c) Heel
d) Recess

Answer: c

Explanation: Heel is the edge formed by intersection of secondary clearance and flute. They help in better machining process using reamers.

5. Reduction in body diameter toward shank of reamer is known as
a) Flutes
b) Face
c) Heel
d) Recess

Answer: d

Explanation: Recess is the reduction in body diameter toward shank. They help in better machining process using reamers.

6. Maximum diameter of reamer at entering is also known as
a) Flutes
b) Face
c) Actual size

d) Recess

Answer: c

Explanation: Actual size of reamer is the maximum diameter of reamer.

7. Portion of reamer which carries flute is known as
a) Flutes
b) Face
c) Body
d) Recess

Answer: c

Explanation: Body carries flute on it. Face of reamers is adjacent to cutting edge.

8. Tapered of reamer by which it can be gripped is known as
a) Flutes
b) Face
c) Heel
d) Shank

Answer: d

Explanation: Shank is used for gripping reamers and rotating. Face of reamers is adjacent to cutting edge.

9. Longitudinal center line which is concentric with diameter of reamer is known as
a) Flutes
b) Axis
c) Heel
d) Recess

Answer: b

Explanation: Axis divides reamers in two symmetric part.

10. If reamer is found to be cutting while rotating in clockwise direction when viewed against the entering end at right angle to it is known as
a) Left handed reamer
b) Central reamer
c) Right handed reamer
d) None of the mentioned

Answer: a

Explanation: Left handed reamer rotate in clockwise during cutting when viewed against the entering end at right angle.

11. If reamer is found to be cutting while rotating in anti-clockwise direction when viewed against the entering end at right angle to it is known as
a) Left handed reamer
b) Central reamer
c) Right handed reamer
d) None of the mentioned
Answer: c
Explanation: Right handed reamer rotate in anti-clockwise during cutting when viewed against the entering end at right angle.

# Grinding Wheel-1

1. Grain number of grinding wheel is ___ to grain size.
a) Directly proportional
b) Inversely proportional
c) Does not depend
d) None of the mentioned
Answer: b
Explanation: Grain number = 1/(grain size). Grain number is similar to density of grains on grinding wheels.

2. Which of the following is correct range for grain number of grinding wheel for coarse grains?
a) 220-600
b) 80-180
c) 30-60
d) 10-24
Answer: d
Explanation: For coarse grain, grain number ranges from 10 to 24.

3. Which of the following is correct range for grain number of grinding wheel for medium grains?
a) 220-600
b) 80-180

c) 30-60

d) 10-24

Answer: c

Explanation: For medium grain, grain number ranges from 30 to 60.

4. Which of the following is correct range for grain number of grinding wheel for fine grains?

a) 220-600

b) 80-180

c) 30-60

d) 10-24

Answer: b

Explanation: For fine grains, grain number ranges from 80 to 180.

5. Which of the following is correct range for grain number of grinding wheel for very fine grains?

a) 220-600

b) 80-180

c) 30-60

d) 10-24

Answer: a

Explanation: For very fine grains, grain number ranges from 220 to 600.

6. Which of the following grinding machine will give better result for rough machining?

a) Fine grain

b) Very fine grain

c) Coarse grain

d) None of the mentioned

Answer: c

Explanation: Coarse grain wheel will give better metal removal rate and space for chip removal as rate of chip flow in rough machining is high.

7. Which of the following grinding machine will give better result for finish machining operation?

a) Fine grain

b) Medium grain

c) Coarse grain

d) None of the mentioned

Answer: c

Explanation: Fine grain wheel will give smaller metal removal rate and hence better for finishing operations.

8. Which of the following symbols range of alphabet represent soft grain in grinding wheel?
a) A – H
b) I – P
c) Q – T
d) T – Z

Answer: a

Explanation: A-H represents soft grains in grinding wheel.

9. Which of the following symbols range of alphabet represent medium hardness grain in grinding wheel?
a) A – H
b) I – P
c) Q – T
d) T – Z

Answer: b

Explanation: I-P represents medium hard grains in grinding wheel.

10. Which of the following symbols range of alphabet represent hard grain in grinding wheel?
a) D – H
b) I – P
c) A – D
d) Q – Z

Answer: a

Explanation: A-H represents soft grains in grinding wheel.

# Grinding Wheel-2

1. Which of the following range of numbers represents dense structure of abrasives?
a) 0-7

b) 8-10
c) 10-12
d) 12-16

Answer: a

Explanation: 0 – 7 represents dense structures. It represents distance between the grain in grinding wheel.

2. Which of the following range of numbers represents open structure of abrasives?
a) 0-3
b) 4-6
c) 8-16
d) None of the mentioned

Answer: c

Explanation: 8 – 16 represents open structure. It represents distance between the grain in grinding wheel.

3. Which of the following represents correct symbol of vertified bond in specification of grinding wheel?
a) V
b) R
c) B
d) S

Answer: a

Explanation: 'V' represents for vertified bond. Fifth place of ISO designation of grinding wheel represents type of bond.

4. Which of the following represents correct symbol of rubber bond in specification of grinding wheel?
a) V
b) R
c) B
d) S

Answer: b

Explanation: 'R' represents for rubber bond. Fifth place of ISO designation of grinding wheel represents type of bond.

5. Which of the following represents correct symbol of Resin bond in specification of grinding wheel?
a) V
b) R
c) B
d) S

Answer: b

Explanation: 'B' represents for resin bond. Fifth place of ISO designation of grinding wheel represents type of bond.

6. Resin bond is also known
a) Vertified bond
b) Rubber bond
c) Silicate bond
d) Bakelite bond

Answer: d

Explanation: Resin bond is also known as Bakelite bond and is represented by symbol 'B'. Fifth place of ISO designation of grinding wheel represents type of bond.

7. Which of the following represents correct symbol of Silicate bond in specification of grinding wheel?
a) V
b) R
c) B
d) S

Answer: d

Explanation: 'S' represents for Silicate bond. Fifth place of ISO designation of grinding wheel represents type of bond.

8. Which of the following represents correct symbol of Shellac bond in specification of grinding wheel?
a) V
b) P
c) B
d) S

Answer: b

Explanation: 'P' represents for shellac bond. Fifth place of ISO designation of grinding wheel represents type of bond.

9. Which of the following represents correct symbol of epoxy bond in specification of grinding wheel?
a) V
b) R
c) P
d) S
Answer: b
Explanation: 'P' represents for epoxy bond. Fifth place of ISO designation of grinding wheel represents type of bond.

10. Which of the following will be better to use for machining of hard work piece?
a) V-bond
b) R-bond
c) Both V and R bond
d) None of the mentioned
Answer: a
Explanation: Vertified bond grinding wheel is generally used for machining of hard work piece. Fifth place of ISO designation of grinding wheel represents type of bond.

# Grinding Wheel-3

1. Which of the following will be better to use for machining of soft work piece?
a) V-bond
b) R-bond
c) Both V and R bond
d) None of the mentioned
Answer: b
Explanation: Rubber bond grinding wheel is generally used for machining of soft work piece. Fifth place of ISO designation of grinding wheel represents type of bond.

2. Which of the following grinding wheel would be more economical for grinding of hard work piece?

a) Soft grinding wheel

b) Hard grinding wheel

c) Both hard and soft grinding wheel

d) None of the mentioned

Answer: a

Explanation: In soft grinding wheels, during machining of hard work piece glazing will occur after long time.

3. Which of the following grinding wheel would be more economical for grinding of soft work piece?

a) Soft grinding wheel

b) Hard grinding wheel

c) Both hard and soft grinding wheel

d) None of the mentioned

Answer: b

Explanation: In hard grinding wheels, during machining of soft work piece glazing will occur after long time and grains of grinding wheel will be effectively utilize before coming out from the wheel.

4. Which of the following grinding wheel would be more economical for grinding of hard work piece?

a) Open structure grinding wheel

b) Dense structure wheel

c) Both dense and open structure grinding wheel

d) None of the mentioned

Answer: b

Explanation: In dense structure grinding wheels, during machining of hard work piece material removal rate is small and also wheel have good strength.

5. Which of the following grinding wheel would be more economical for grinding of soft work piece?

a) Open structure grinding wheel

b) Dense structure wheel

c) Both dense and open structure grinding wheel

d) None of the mentioned

Answer: a

Explanation: In open structure grinding wheels, during machining of soft work piece

material removal rate is large and space for chip flow is also large due to more space between grains of wheel.

6. Material removal rate of grinding process in comparison to material removal rate in facing on lathe is
a) Small
b) Large
c) Same
d) Can't say about material removal rate
Answer: a
Explanation: Material removal rate in grinding process is very small. Hence grinding is mostly use as finishing process. Only small portion of abrasives are involved in grinding process and hence has less material removal rate.

7. Material removal rate in grinding operation is small due to
a) Negative rake angle
b) Positive rake angle
c) Zero rake angle
d) Material removal rate does not depend on rake angle
Answer: a
Explanation: Grinding wheel have negative rake angle and hence have very small material removal rate. Hence grinding is mostly use as finishing process.

8. Material removal rate in grinding operation is small due to
a) Only small portion of abrasives are involved in cutting
b) Positive rake angle
c) Zero rake angle
d) Material removal rate does not depend on rake angle
Answer: a
Explanation: Only small portion of abrasives are involved in grinding process and hence has less material removal rate. Hence grinding is mostly use as finishing process.

9. Material removal rate in grinding operation is small due to
a) Large portion of abrasives are involved in cutting
b) Positive rake angle
c) Due to temperature rise during grinding
d) Material removal rate does not depend on rake angle

Answer: c

Explanation: Due to increase in temperature during grinding operation some material get welded again with the chip.

10. Grinding ratio generally lies between
a) 0.5-10
b) 100-200
c) 1000-200
d) 30-40

Answer: a

Explanation: Grinding ratio = (volume of material removed/volume of wheel wear). G.R is generally between 0.5-10.

# Grinding-1

1. Grinding wheel is specified as "A 46 K 5 B 17". Grain size of wheel will be
a) Coarse
b) Medium
c) Fine
d) Very Fine

Answer: b

Explanation: '46' represents grain size, which is medium grain size. Second value in the specification represents grain size.

2. Grinding wheel is specified as "C 8 K 5 B 17". Grain size of wheel will be
a) Coarse
b) Medium
c) Fine
d) Very Fine

Answer: a

Explanation: '8' represents grain size, which is coarse. Second value in the specification represents grain size.

3. Grinding wheel is specified as "A 600 K 5 B 17". Grain size of wheel will be
a) Coarse

b) Medium
c) Fine
d) Very Fine

Answer: d

Explanation: '600' represents grain size, which comes under very fine grain size. Second value in the specification represents grain size.

4. Which of the following grinding wheel will have fine grain size?
a) A 46 K 5 B 17
b) C 600 K 5 B 17
c) C 8 K 5 B 17
d) A 80 K 5 B 17

Answer: d

Explanation: Second place of ISO designation of grinding wheel represents grain size and "80" comes under fine rain size.

5. Which of the following grinding wheel will have fine grain size?
a) A 46 K 5 B 17
b) C 600 K 5 B 17
c) C 8 K 5 B 17
d) A 80 K 5 B 17

Answer: c

Explanation: Second place of ISO designation of grinding wheel represents grain size and "600" comes under very fine rain size.

6. Which of the following specified grinding wheel will have Aluminum oxide abrasive?
a) Z 46 K 5 B 17
b) C 600 K 5 B 17
c) C 8 K 5 B 17
d) A 80 K 5 B 17

Answer: d

Explanation: First place of ISO designation of grinding wheel represents grain type and "A" represents aluminum oxide.

7. Which of the following specified grinding wheel will have Zirconia abrasive?
a) Z 46 K 5 B 17

b) C 600 K 5 B 17
c) C 8 K 5 B 17
d) A 80 K 5 B 17

Answer: a

Explanation: First place of ISO designation of grinding wheel represents grain type and "Z" represents Zirconia.

8. Which of the following specified grinding wheel will have Silicon carbide abrasive?
a) Z 46 K 5 B 17
b) C 600 K 5 B 17
c) A 8 K 5 B 17
d) A 80 K 5 B 17

Answer: b

Explanation: First place of ISO designation of grinding wheel represents grain type and "C" represents silicon carbide.

9. Operation done to make periphery of grinding wheel concentric with its axis to recover its lost shape is known as
a) Loading
b) Glazing
c) Dressing
d) Trueing

Answer: d

Explanation: Trueing is done to make periphery of grinding wheel concentric with its axis and to recover its lost shape.

10. Removing dull grains in order to make grinding wheel sharp is known as
a) Loading
b) Glazing
c) Dressing
d) Trueing

Answer: c

Explanation: Dressing is done to make grinding wheel shaft by removing dull grains at top.

# Grinding-2

1. Which of the following grinding wheel specified in ISO designation will represent Vitrified bond?
a) Z 46 K 5 E 17
b) C 600 K 5 B 17
c) C 8 K 5 R 17
d) A 80 K 5 V 17

Answer: d

Explanation: Fifth place of ISO designation of grinding wheel represents type of bond and "V" represents Vitrified bond type.

2. Grinding wheel specified as "C 8 K 5 R 17" in ISO designation. What is the type of bond present in grinding wheel?
a) Vitrified
b) Rubber
c) Shellac
d) Epoxy

Answer: b

Explanation: Fifth place of ISO designation of grinding wheel represents type of bond and "R" represents rubber.

3. Which of the following grinding wheel specified in ISO designation will represent Resin bond?
a) Z 46 K 5 E 17
b) C 600 K 5 B 17
c) C 8 K 5 R 17
d) A 80 K 5 V 17

Answer: b

Explanation: Fifth place of ISO designation of grinding wheel represents type of bond and "B" represents resin bond.

4. Which of the following grinding wheel specified in ISO designation will represent Shellac bond?
a) Z 46 K 5 E 17
b) C 600 K 5 B 17
c) C 8 K 5 R 17

d) A 80 K 5 V 17

Answer: a

Explanation: Fifth place of ISO designation of grinding wheel represents type of bond and "E" represents shellac.

5. Grinding wheel specified as "A 8 K 5 P 17" in ISO designation. What is the type of bond present in grinding wheel?
a) Vitrified
b) Rubber
c) Shellac
d) Epoxy

Answer: d

Explanation: Fifth place of ISO designation of grinding wheel represents type of bond and "P" represents rubber.

6. Which of the following will not have open structure?
a) A 46 K 5 B 17
b) C 600 K 8 B 17
c) C 8 K 5 9 17
d) A 80 K 10 B 17

Answer: a

Explanation: Fourth place of ISO designation of grinding wheel represents Structure and "5" comes under dense structure.

7. Which of the following has open structure?
a) A 46 K 5 B 17
b) C 600 K 8 B 17
c) C 8 K 5 3 17
d) A 80 K 4 B 17

Answer: b

Explanation: Fourth place of ISO designation of grinding wheel represents Structure and "8" comes under open structure.

8. A grinding wheel is specified as "C 10 K 8 R 17". Which of the following is correct about this grinding wheel?
a) Very fine grains
b) Open structure
c) Aluminum oxide abrasive

d) Coarse grain

Answer: b

Explanation: Fourth place of ISO designation of grinding wheel represents Structure and "8" comes under open structure.

9. A grinding wheel is specified as "A 5 K 5 R 17". Which of the following is correct about this grinding wheel?
a) Very fine grains
b) Open structure
c) Aluminum oxide abrasive
d) Coarse grain

Answer: c

Explanation: First place of ISO designation of grinding wheel represents grain type and "A" represents aluminum oxide.

10. A grinding wheel is specified as "C 5 K 5 R 17". Which of the following is correct about this grinding wheel?
a) Very fine grains
b) Open structure
c) Rubber bond
d) Coarse grain

Answer: c

Explanation: Fifth place of ISO designation of grinding wheel represents type of bond and "R" represents rubber.

11. A grinding wheel is specified as "A 8 K 5 P 17". Which of the following is correct about this grinding wheel?
a) Very fine grains
b) Open structure
c) Rubber bond
d) Coarse grain

Answer: d

Explanation: '8' represents grain size, which is coarse.

12. Friability of grinding wheel is associated to
a) Hardness
b) Fracture
c) Size

d) None of the mentioned

Answer: b

Explanation: Friability is the ability to fracture under pressure so that when cutting edge become dull, the grain breaks off and exposes new grains which are sharp.

13. With time, grinding wheel starts rubbing work piece instead of cutting, due to decrease in sharpness. This phenomenon is known as
a) Loading
b) Glazing
c) Dressing
d) Trueing

Answer: b

Explanation: Glazing occurs when grinding wheel starts rubbing work piece instead of cutting.

14. Loss in sharpness of grinding wheel due to presence of chips in gaps of grains is termed as
a) Loading
b) Glazing
c) Dressing
d) Trueing

Answer: a

Explanation: Loading decrease sharpness of grinding wheel, when foreign material comes in between free space of wheel.

# Surface Finishing Operations

1. Which of the following is a surface finishing operation?
a) Drilling
b) Honing
c) Milling
d) Turning

Answer: b

Explanation: Honing is a surface finishing operation used to give better surface finish and have very small material removal rate.

2. Which of the following is a surface finishing operation?
a) Drilling
b) Lapping
c) Milling
d) Turning

Answer: b

Explanation: Lapping is a surface finishing operation used to give better surface finish and have very small material removal rate.

3. Which of the following process has lowest cutting speed?
a) Drilling
b) Honing
c) Milling
d) Turning

Answer: b

Explanation: Honing is a surface finishing operation and hence it is generally performed at low speed.

4. Which of the following process has lowest cutting speed?
a) Slotting
b) Lapping
c) Milling
d) Reaming

Answer: b

Explanation: Lapping is a surface finishing operation and hence it is generally performed at low speed.

5. Which of the following process have lowest metal removal rate?
a) Drilling
b) Reaming
c) Milling
d) Lapping

Answer: b

Explanation: Lapping is a surface finishing operation and hence have low metal removal rate.

6. Which of the following process have lowest metal removal rate?
a) Drilling

b) Reaming

c) Milling

d) Honing

Answer: d

Explanation: Honing is a surface finishing operation and hence have low metal removal rate.

7. Which of the following is correct grain size range of abrasive grains for honing stones?

a) 800 grit to 1000 grit

b) 5 grit to 10 grit

c) 50 grit to 60 grit

d) 80 grit to 600 grit

Answer: d

Explanation: 80 grit to 600 grit is the correct grain size range of abrasive grains for honing stones.

8. For practical honing conditions, cross hatch angle in degrees is generally taken in the range of

a) 20 to 40

b) 40 to 50

c) 50 to 60

d) 10 to 15

Answer: a

Explanation: Cross hatch angle is generally taken from 20 degree to 40 degree.

9. During a honing process, reciprocating speed of honing tool was 9m/min with a rotary speed of 25m/min. Cross hatch angle in degrees is equal to

a) 40

b) 35

c) 30

d) 25

Answer: a

Explanation: tan(X) = (Reciprocating speed in m/min)/ (Rotary speed in m/min). Cross hatch angle = 2*X, where 'X' is the cross hatch angle.

10. During a honing process, reciprocating speed of honing tool was 9m/min with a cross hatch angle of 30 degree. Rotary speed in m/min is

equal to
a) 33.58
b) 35
c) 30
d) 25.23

Answer: a

Explanation: tan(X) = (Reciprocating speed in m/min)/ (Rotary speed in m/min).
Cross hatch angle = 2*X, where 'X is the cross hatch angle.

# Metrology-1

1. Maximum deviation in size of shaft or hole is known as
a) Tolerance
b) Fundamental deviation
c) Clearance
d) Interference

Answer: a

Explanation: Tolerance is the maximum deviation in size of shaft or hole.

2. Nearest deviation between hole and shaft from the basic value is known as
a) Tolerance
b) Fundamental deviation
c) Clearance
d) Interference

Answer: b

Explanation: Tolerance is the maximum deviation in size of shaft or hole.

3. When size of smallest hole is more than size of biggest shaft then it is
a) Clearance fit
b) Interference fit
c) Transition fit
d) None of the mentioned

Answer: a

Explanation: When size of smallest hole is more than size of biggest shaft then it is clearance fit.

4. Value of minimum clearance is given by
a) Size of smallest hole – size of biggest shaft
b) Size of smallest hole + size of biggest hole
c) Size of smallest shaft – size of biggest shaft
d) None of the mentioned

Answer: a

Explanation: Minimum clearance is the difference between size of smallest hole and size of biggest shaft.

5. Value of maximum clearance is given by
a) Size of smallest hole – size of biggest hole
b) Size of smallest shaft + size of biggest hole
c) Size of smallest shaft – size of biggest shaft
d) None of the mentioned

Answer: b

Explanation: Maximum clearance is given by sum of size of biggest hole and smallest shaft.

6. When size of smallest shaft is more than size of biggest hole then it is
a) Clearance fit
b) Interference fit
c) Transition fit
d) None of the mentioned

Answer: b

Explanation: When size of smallest shaft is more than size of biggest hole then it is interference fit.

7. Value of maximum Interference is given by
a) Size of smallest hole – size of biggest shaft
b) Largest of shaft size hole – smallest hole size
c) Size of smallest shaft – size of biggest shaft
d) None of the mentioned

Answer: b

Explanation: Maximum Interference is the difference between size of largest haft size and smallest hole size.

8. Value of minimum interference is given by
a) Size of smallest hole – size of biggest hole

b) Size of smallest shaft + size of biggest hole

c) Size of smallest shaft – size of biggest hole

d) None of the mentioned

Answer: c

Explanation: Minimum interference is the difference between size of smallest shaft and size of biggest hole.

9. For manufacturing of certain amount of hole, maximum hole size was found to be 50.14 mm and minimum hole size was found to be 49.98. Tolerance in mm will be

a) 0.12

b) 0.13

c) 0.16

d) 0.20

Answer: c

Explanation: Tolerance is the maximum deviation in size of shaft or hole.

10. In manufacturing of hole and shaft, maximum shaft diameter was 49.88 mm and minimum hole diameter was found to be 49.94 mm. It is a

a) Clearance fit

b) Interference fit

c) Transition fit

d) None of the mentioned

Answer: a

Explanation: When size of smallest hole is more than size of biggest shaft then it is clearance fit.

# Metrology-2

1. In an assembly of hole and shaft, smallest hole was having diameter of 49.98 mm and largest shaft was having diameter of 49.94 mm. Minimum clearance in mm will be

a) .08

b) .03

c) .001

d) .04

Answer: d

Explanation: Minimum clearance is the difference between size of smallest hole and size of biggest shaft. Maximum clearance is given by sum of size of biggest hole and smallest shaft.

2. In an assembly of hole and shaft, smallest shaft was having diameter of 49.98 mm and largest hole was having diameter of 50.14 mm. Maximum clearance in mm will be
a) 0.23
b) 0.26
c) 0.32
d) 0.12

Answer: b

Explanation: Maximum clearance is given by sum of size of biggest hole and smallest shaft. Minimum clearance is the difference between size of smallest hole and size of biggest shaft.

3. In an assembly of hole and shaft, largest shaft was having diameter of 50.18 mm and smallest hole was having diameter of 49.98 mm. Maximum interference in mm will be
a) 0.2
b) 0.3
c) 0.3
d) 0.1

Answer: a

Explanation: Maximum Interference is the difference between size of largest haft size and smallest hole size. Minimum interference is the difference between size of smallest shaft and size of biggest hole.

4. In an assembly of hole and shaft, minimum shaft diameter is 49.36 mm and maximum shaft diameter is 48.20 mm. It is an example of
a) Clearance fit
b) Interference fit
c) Transition fit
d) None of the mentioned

Answer: b

Explanation: When size of smallest shaft is more than size of biggest hole then it is

Interference fit. Maximum Interference is the difference between size of largest haft size and smallest hole size.

5. In an assembly of hole and shaft, smallest shaft was having diameter of 50.16 mm and largest hole was having diameter of 50.14 mm. Minimum interference in mm will be
a) 0.2
b) 0.3
c) 0.3
d) 0.1
Answer: a
Explanation: Minimum interference is the difference between size of smallest shaft and size of biggest hole. Maximum Interference is the difference between size of largest haft size and smallest hole size.

6. Maximum material limit of shaft is
a) Maximum diameter of hole
b) Maximum diameter of shaft
c) Smallest diameter of hole
d) Minimum diameter of shaft
Answer: b
Explanation: Maximum material limit of shaft is maximum diameter of shaft. Minimum material limit of shaft is minimum diameter of shaft.

7. Maximum material limit of hole is
a) Maximum diameter of hole
b) Maximum diameter of shaft
c) Smallest diameter of hole
d) Minimum diameter of shaft
Answer: c
Explanation: Maximum material limit of hole is smallest diameter of hole. Minimum material limit of hole is largest diameter of hole.

8. Minimum material limit of shaft is
a) Maximum diameter of hole
b) Maximum diameter of shaft
c) Smallest diameter of hole
d) Minimum diameter of shaft

Answer: d

Explanation: Minimum material limit of shaft is minimum diameter of shaft. Maximum material limit of shaft is maximum diameter of shaft.

9. Minimum material limit of hole is
a) Maximum diameter of hole
b) Maximum diameter of shaft
c) Smallest diameter of hole
d) Minimum diameter of shaft

Answer: c

Explanation: Minimum material limit of hole is largest diameter of hole. Maximum material limit of hole is smallest diameter of hole.

10. Allowance of hole and shaft assembly is equal to
a) Sum of maximum metal limit
b) Product of Maximum limit
c) Difference of maximum metal limit
d) None of the mentioned

Answer: c

Explanation: Allowance of hole and shaft assembly is equal to difference of maximum metal limit.