1. While turning taper by the offset method, it is better to use in the tailstock a
   (1) Revolving centre (2) ball cenre
   (3) Pipe centre (4) half cenre
   Ans: 2

2. During turning, a follower steady is held on the
   (1) Lathe bed (2) Lathe saddle
   (3) Lathe spindle (4) Tail stock
   Ans: 2

3. A tool which is used to enlarge a drilled hole is called a
   (1) Boring tool (2) facing tool
   (3) Right hand turning tool (4) form tool
   Ans: 1

4. The number of threads per inch is checked with a
   (1) Tool gauge (2) metric rule
   (3) Ring gauge (4) screw pitch gauge
   Ans: 4

5. To true a job precisely in a 4 jaw chuck the instrument used is a
   (1) Micrometer
   (2) Vernier bevel protractor
   (3) Dial test indicator with a magnetic base
   (4) Try square
   Ans: 3

6. By using coolant on work pieces we can choose
   (1) Higher cutting speed (2) lower cutting feeds
   (3) Lower cutting speeds (4) heavy depth of cuts with low feed
   Ans: 1

7. A centre gauge is used to
   (1) Check the pitch of the thread
   (2) Set the tool at the correct centre height
   (3) Check the fit of the thread
   (4) Check the angle of the threading tool
   Ans: 2

8. A welding transformer is used to convert the
   (1) D.C. main supply into an A.C welding supply
   (2) A.C. main supply into an D.C welding supply
   (3) A.C. main supply into an A.C welding supply
   (4) D.C. main supply into an D.C welding supply
   Ans: 3

9. While doing turning the purpose of the clearance angle is
(1) to guide the chips away
(2) to avoid over heating
(3) to prevent the tool rubbing with the work
(4) to break the lengthy chips
Ans: 3

10. Which among the following operation will be most suitable, and will produce a larger diameter hole concentric to a cored hole in a casting?
(1) Drilling (2) counter boring (3) Reaming (4) Boring
Ans: 4

11. The purpose of normalizing is to
(1) Soften the metal (2) increase the toughness
(3) Refine the structure (4) harden the surface
Ans: 3

12. The necessity of tack welding in a joint is to
(1) Join two pieces of plates (2) join two pieces of pipes
(3) Control distortion during welding (4) eliminate spartters
Ans: 3

13. A work piece is centre drilled in the lathe for the purpose of
(1) Turning in between centres only
(2) Spotting a hole for drilling or for turning in between centres
(3) Placing it on a mandrel for turning in between centres
(4) Facing to the centre of the work piece
Ans: 2

14. For external taper of MT 4 in mass production. The most useful method of taper turning is the
(1) Offsetting the tail stock (2) taper turning attachment nut
(3) Swiveling the compound slide(4) plunge cut with form tool
Ans: 2

15. In the letter drill series, the size of the drill 'A' is equal to
(1) 13mm (2) 6.08mm (3) 5mm (4) 5.944 mm
Ans: 4

16. The purpose of relief grooves is to
(1) maintain the required type of fit
(2) ensure contact between surfaces without any obstruction
(3) make for lubrication
(4) adjust the components for play
Ans: 2

17. The least cont of a Vernier metric micrometer is
(1) 0.1mm (2) 0.01mm (3) 0.001mm (4) 0.0001 mm
Ans: 3

18. Which one of the following is an alloy of carbon and iron, in which carbon is in a combined state?
(1) Steel (2) Wrought iron (3) cast iron (4) Pig-iron
Ans: 1

19. Tab washers are used for
(1) Preventing vibration (2) locking the nuts
(3) Self locking (4) fastening structural fabrication work
Ans: 2

20. The feeler gauge is used for
(1) Checking surface roughness
(2) Checking the radius of work pieces
(3) Checking the gap between mating parts
(4) checking the accuracy of the hole locators
Ans: 3

21. Tool will rub against the work surface and the cutting force increases when
(1) Clearance angle is more (2) clearance angel is less
(3) Rake angle is more (4) rake angle is less
Ans: 2

22. The process of heating and cooling for changing the structure of steel for obtaining the required properties is called
(1) Hardening (2) heat treatment
(3) Normalizing (4) tempering
Ans: 3

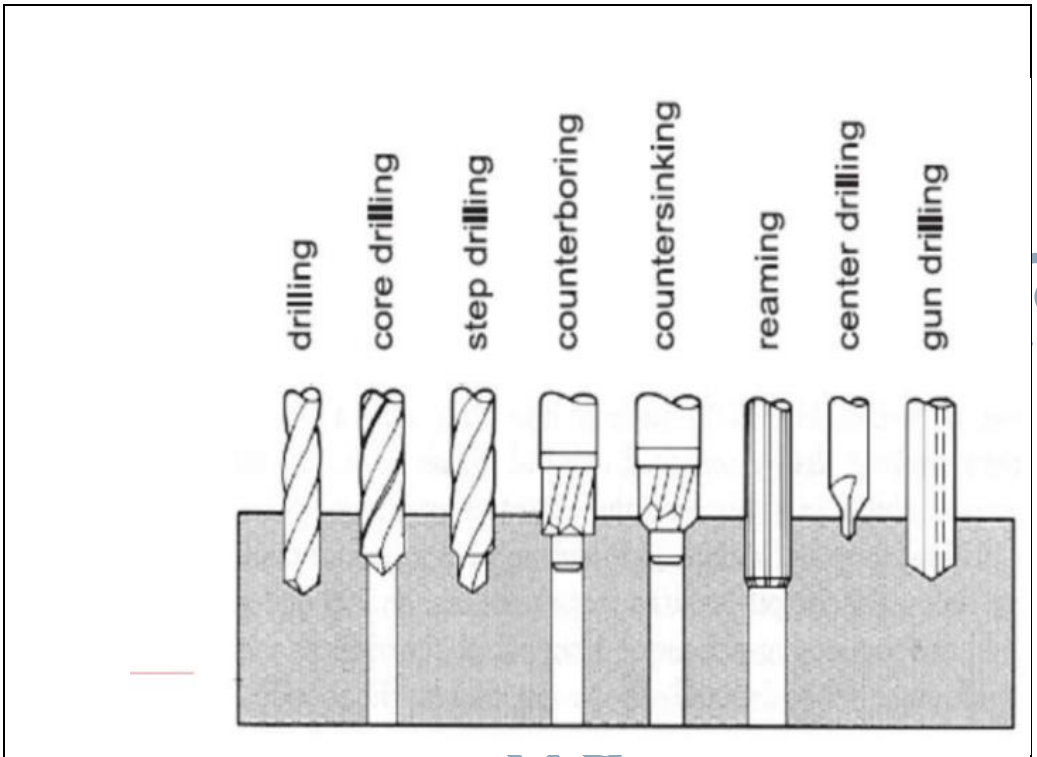
23. The taper shank drills are held on the machine by means of
(1) chucks (2) sleeves (3) drift (4) vice
Ans: 2

24. The point angle of drills depends on
(1) Size of the drill (2) type of machine
(3) Material of the work (4) RPM of the drill
Ans: 3

25. The process of enlarging the end of a hold for accommodating the socket screw head is
(1) Reaming (2) spot facing
(3) Counter boring (4) counter sinking
Ans: 3

26. Centre drilling is an operation of
(1) Drilling and counter sinking
(2) Drilling and counter boring
(3) Marking the centre location before drilling
(4) Enlarging the diameter of a hold

Ans: 1



http://www.jnkvv.org/PDF/18052020092940175202111.pdf

A center drill is used for drilling a hole on the axis of a shaft to hold it between centers. It was also used to drill center holes on machining centers, but has been replaced by the spot drill (which has a simpler geometry) for this purpose.

27. The cutting angle for chipping cast iron is
(1) 60° (2) 55° (3) 90° (4) 37.5°
Ans: 1

28. The standard point angle of drill is
(1) 60° (2) 90° (3) 110° (4) 118°
Ans:4

29. The part of a Vernier bevel protractor which is normally used as a reference base for measuring angles is the
(1) Blade (2) stock
(3) Disc (4) main scale
Ans: 2

30. The reamer is used for
(1) Drilling holes in thin sheets (2) drilling deep hoes
(3) Removing burrs (4) finishing a drilled hole

Ans: 4

31. When a boat enters the sea from a river
(1) It floats higher (2) sinks deeper
(3) Keep the same depth (4) sinks completely
Ans: 1

32. Reverberation of sound means
(1) Reflection of sound (2) persistence of sound
(3) Absorption of sound (4) refraction of sound
Ans: 1

33. The author of Tamil Classic "Sivakamiyin sabatham" was
(1) Kalki (2) Sujatha
(3) Devan (4) Sandilyan
Ans: 1

34. _____ State in South India is known as "God's Own Country"
(1) Tamil Nadu (2) Karnataka
(3) Kerala (4) Andhra Pradesh
Ans: 3

35. In the field of Chemistry Avogadro Number N is a
(1) Constant at constant temperature (2)constant at constant pressure
(3) Constant at constant volume (4) universal constant
Ans: 4

36. In electroplating the metal to be coated is taken as the
(1) Electrolyte (2) Cathode (3) anode (4) Vessel
Ans: 2

37. The first President of Indian Republic was
(1) Dr.Radhakrishnan (2) Rajaji
(3) Dr. Rajendraprasad (4) Jawaharlal Nehru
Ans: 3

38. The purpose of grooves given on the lapping plate is for
(1)reducing friction (2) retaining lapping paste
(3) collecting he metal chips (4)preventing distortion of the plate
Ans: 2

39. In boning the movement of the spindle is
(1) horizontal and reciprocating (2) vertical and reciprocating
(3) reciprocating (4) vertical
Ans: 2

40. Drilling jigs are used for
(1) drilling operation only
(2) clamping the jobs while drilling
(3) drilling, reaming, tapping and other allied operations

(4) sharpening drill to correct angle
Ans: 3

41. The reamer teeth are unevenly spaced because
(1) They are easy to manufacture
(2) They can reduce chattering
(3) They help to cut metal gradually
(4) They help to remove the reamer easily
Ans: 2

42. Inspection aims at
(1) segregation of defective components
(2) conformation of rejection
(3) prevention of rejection
(4) sale of quality goods
Ans: 1

43. A failure cost reporting system is used for
(1)incentive for components
(2) inventory control
(3) finding weak points in design
(4)finding weak spots in production
Ans: 2

44. A bloc level can be used for checking
(1)vertical and horizontal alignment
(2)only vertical alignment
(3) only horizontal alignment
(4)onlyangularvertical and horizontal alignment
Ans: 1

45. Spring washers are used under nuts
(1) to prevent slackening of nuts due to vibration
(2) to prevent damage to the work
(3) to prevent damages to the bolt
(4) to prevent damages to the thread
Ans: 1

46. Linear indexing is involved in manufacturing of
(1) micrometer thimble
(2) vernier bevel protractor dial
(3) sprit level scale
(4) rack teeth
Ans: 1

47. Drill chucks are fitted on the drilling machine spindle by means of a

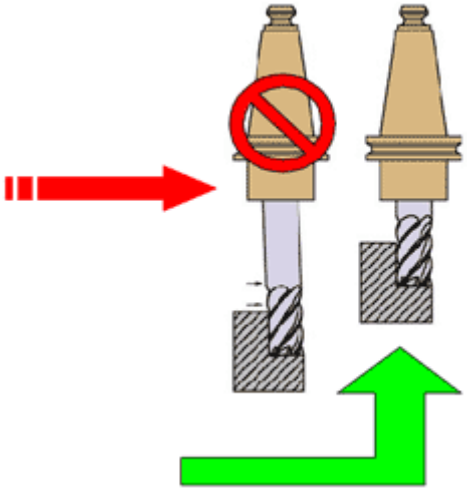
(1) Knurled ring (2) arbor (3) drift (4) pinion and key

Ans:2

Tool Overhang is defined as the distance that the tool extends from the end of tool holder (diameter to len ratio). Cutting Forces push the tool away from the cut causing tool deflection. Cutting forces are produced

the SFM, axial depth of cut, radial depth of cut, feedrate, and material. By keeping tool overhang to a mini
the following benefits may be achieved:

- Reduced Chatter and Vibration
- Increased Tool Life
- Improved part finish
- Increased speed and feed
- Increase in productivity



https://www.destinytool.com/tool-overhang.html

48. Which of the following is used to cut small diameter wires, pins, nails and to remove ails from wood?

(1) Side cutting pliers
(2) combination pliers
(3) End-cutting pliers
(4) flat nose pliers

Ans: 4

WHAT ARE COMMON TYPES OF PLIERS AND WIRE CUTTERS?

Pliers are made in various shapes and sizes and for many uses. Some are used for gripping something round like a pipe or rod, some are used for twisting wires, and others are designed to be used for a combination of tasks including cutting wire. There are also tools that are used just for cutting wires (as opposed to wire cable and rope). Use the correct pliers or wire cutters for the job.

Side Cutting (Lineman's) Pliers

Proper use of side cutting (lineman's) pliers:

- Many applications including electrical, communications and construction

work
- Use to grip, splice or cut wires, and strip insulation.

tps://www.ccohs.ca/oshanswers/safety_haz/hand_tools/pliers.html

49. Which type of chip formation would be the best for turning mild steel?

(1) **continuous chips** (2) segmental chips

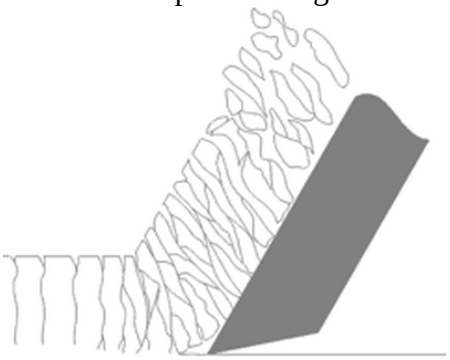
(3) I-shaped chips (4) spiral chips

Ans:1. (This is the most desirable form of chip since the surface finish obtained is good and cutting is smooth.)

TYPE 1: DISCONTINUOUS CHIP

Cast Iron, Hard Brass and other materials that produce a Powdery chip.

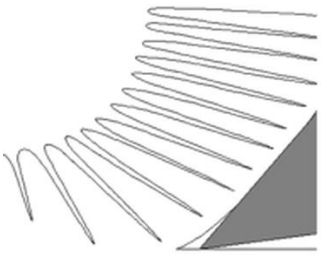
"Discontinuous Chip - Discontinuous or segmented chips are produced when brittle metal such as cast iron and hard bronze are cut or when some ductile metals are cut under poor cutting conditions.



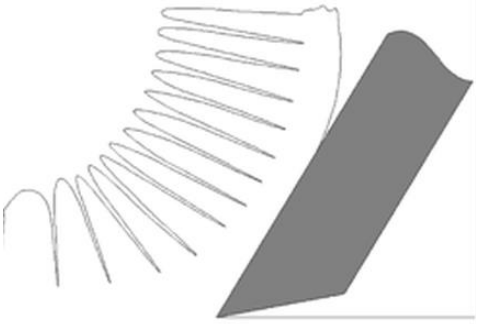
TYPE 2: CONTINUOUS CHIP

Medium to High carbon and alloy Steels – Long Chipping Materials

"Continuous Chip - Continuous chips are a continuous ribbon produced when the flow of metal next to the tool face is not greatly restricted by a built-up edge or friction at the chip tool interface. The continuous ribbon chip is considered ideal for efficient cutting action because it results in better finishes. Unlike the Type 1 chip, fractures or ruptures do not occur here, because of the ductile nature of the metal."



TYPE 3: SHEARED CHIPS OR CONTINUOUS CHIP WITH A BUILT-UP EDGE (BUE
Low carbon Steels, Stainless Steels, Nickel Alloys, Titanium, Copper, Aluminum and other soft, "gummy' Materials. Sheared Chips or as some refer to it "Continuous Chip with a Built-up Edge (BUE). The metal ahead of the cutting tool is compressed and forms a chip which begins to flow along the chip-tool interface.



https://www.destinytool.com/chip-formation.html

50. A minor load of 10kg is applied initially in Rockwell hardness testing to

(1) Eliminate getting wrong reading due to the hardness of the inner surface of the work piece

(2) Eliminate the effect of backlash in the machine

(3) Eliminate any movement of the work piece

(4) Eliminate sudden jerk while applying a major load

Ans:1.

Rockwell hardness testing is a method of determining the relative hardness of a material. In this test, hardness is measured by determining the depth of residual penetration by a steel ball or a diamond point under load. Rockwell testing is the most commonly conducted hardness testing, ashe testing procedure is simple and the readings can be directly attained from the testing machine.

Hardness may be defined as the ability of a material to resist plastic deformation caused by penetrating forces. The Rockwell hardness scale is based on the indentation hardness of a material, which is simpy the resistance offered by a material to indentation.

The Rockwell testing apparatus was first invented by Hugh M. Rockwell and Stanley P. Rockwell. The first Rockwell testing machine was a differential-depth machine. This machine was later named the Wilson tester. The value of hardness measured by this method is represented as a dimensionless number followed by an abbreviation. The abbreviation used to designate Rockwell hardness is HRA, where A is the scale.

The most common scales for this hardness testing are ‘B’ and ‘C’.

A variation of Rockwell hardness testing is the Rockwell Superficial Hardness testing. This testing method is used to measure the hardness of thin materials that tend to bend or get crushed under regular testing conditions. In this testing method, the indentation material is the same as in standard Rockwell testing but the applied load is reduced. To designate the superficial hardness test value a ‘T’ is added along with the HR number. This article will elaborate on the technique and applications of Rockwell testing.

Technique

A specific load is applied on the indenter of a Wilson tester and the depth of the penetration is measured. The indenter may be a steel ball or a spherical diamond-tipped cone of 120° angle and 0.2 mm tip radius (called a brale). A minor load of 10 kg is applied first, which causes a minor indentation. This is done in order to seat the indenter and also remove any surface irregularities.

https://www.azom.com/article.aspx?ArticleID=9693#:~:text=Technique%20of%20Rockwell%20Hardness%20Test&text=A%20minor%20load%20of%2010,also%20remove%20any%20surface%20irregularities.