IBONG TIRIRIT (MDSP 6)

1. A correct cutting angle on a drill for ordinary work is:
   a. 45^o b. 59^o
   c. 64^o d. 70^o

B

2. When using a drill press, the work should be hold with:
   a. glove hand
   b. the hand
   c. a vise and a clamp
   d. pliers

C

3. A machining operation whereby the tool reciprocates and the feed is stationary.
   a. reaming b. shaping
   c. planning d. turning

B

4. A machining operation whereby the tool rotates and the feed is stationary.
   a. shaping b. milling
   c. turning d. reaming

B

5. A machine used in shaping metal by means of abrasive wheel or removal of metals with abrasive.
   a. shaper b. planer
   c. grinder d. power saw

C

6. To prevent leakage in dynamic seals, it is recommended to used
   a. gaskets b. seals
   c. packings d. felts

C

7. The process of checking or producing checkers on the surface of the piece by rolling checkered depressions in the surface.
   a. indexing b. soldering
   c. knurling d. quenching

C

8. Tooth width measured along the chord at the pitch circle.
   a. chord space
   b. chordal thickness
   c. chord clearance
   d. chord length

B

9. It is recommended for high speed application that the maximum number of teeth in small sprocket should be:
   a. 10 to 20
   b. 16 to 32
   c. 14 to 28
   d. 18 to 24

D

10. Cast iron flywheels are commonly designated with a factor of safety of:
   a 8 to 10
   b. 10 to 13
   c. 5 to 6
   d. 18 to 20

B

12. An agency handling assistance to all foundry, machine shop and metallurgical plant operation.
   a. DOST
   b. BOI
   c. MIRDC
   d. UNICEF

C

13. A metal characteristic that absorbs extreme deformation without rupture is called:
   a. hardness
   b. ductility
   c. plasticity
   d. toughness

C

14. The size of all the pipes from 1/16 inches to 12 inches is defined by _____ size.
   a. design
   b. external diameter
   c. inside diameter
   d. tubular

C

15. Cutting lubricants used in drilling, reaming and lapping of cast iron parts.
   a. soda water
   b. kerosene
   c. soluble oil
   d. dry

D

16. The angle developed between tooth profile and radial line at its pitch point is referred as:
   a. approach angle
   b. pressure angle
   c. recess angle
   d. base helix angle

B

17. The purpose of annealing is to make a metal:
   a. harder
   b. medium hard
   c. softer
   d. shiny

C

18. AISI numbering for silicon steel.
   a. 85XX
   b. 92XX
   c. 93XX
   d. 87XX

B

19. Specific weight of steel in lbs/inches^3
   a. 0.832
   b. 0.328
   c. 0.283
   d. 0.823

C

20. Ratio of coil to wire diameter, a measure of coil curvature.
   a. spring rate
   b. spring index
   c. Wahl's factor
   d. spring scale

B

21. When hole is smaller than the shaft, it will take pressure to pull the parts together, and the allowance is negative and is termed as:
   a. negative fits
   b. negative allowance
   c. interference of metals
   d. negative allowance

C

22. A kind of thread that is generally used.
a. UNF
b. UNEF
c. UNC
d. 8-Thread series

C

23. A machine tool used principally to machine flat or plane surfaces with a single point cutting tool.
a. shaper
b. planer
c. milling
d. lathe

A

24. The ratio of relative viscosities colliding bodies after impact to their velocity before impact.
a. coefficient of friction
b. coefficient of velocity
c. coefficient of restitution
d. coefficient of fluctuation

B

25. In machine shop forging operation of lengthening a piece of stock while reducing the cross sectional area of work is called:
a. reducing
b. upsetting
c. upgrading
d. desizing

B

26. It is the radial distance between the top of the tooth and the bottoms of the mating tooth space.
a. clearance
b. tolerance
c. lead
d. crest

A

27. An arc of the pitch circle through which a tooth travels from its contact to a mating tooth at the pitch point to the point where contact ceases.
a. arc of action
b. arc of recess
c. arc of approach
d. backlash

B

28. The distance a helical gear would thread along its axis one revolution of it were free to move axially.
a. crest
b. lead
c. module
d. clearance

B

29. Ability of a material to absorb energy when deformed elastically and return to it when unloaded is:
a. toughness
b. creep
c. resilience
d. plasticity

C

30. A weld made to hold the parts of a weldment in proper alignment until final welds are made.
a. fusion weld
b. tack weld
c. electric weld
d. oxy-acetylene weld

B

31. It is a machine used for testing of very thin steel or surface layers.
a. Charpy test
b. Izod test
c. Description test
d. Rockwell test

D

32. A machine tool in which an abrasive wheel is used as a cutting tool to obtain a very smooth finish.
a. Broaching machine
b. Planer
c. Tool grinder
d. Lathe machine

C

33. A machine tool used to produce a variety of surfaces by using a circular type cutter with multiple teeth
a. lathe machine
b. milling machine
c. broaching machine
d. grinding machine

B

34. A cutting tool used to finish internal and external surfaces by the use of a cutter called a broach, which has a series of cutting edges of teeth.
a. lathe machine
b. broaching machine
c. planer
d. shaper

B

35. A kind of chuck, which should not be used where accuracy is required called
a. collet chuck
b. magnetic chuck
c. four jaw chuck
d. universal chuck

C

36. A tool when pressed into a finished hole in a piece of work, provides center on which the place may be turned otherwise machined called
a. mesh
b. butt
c. mandrel
d. wobble

C

37. A machine tool which is very similar to a shaper except that the ram reciprocates vertically rather than horizontally.
a. lathe
b. grinder
c. planer
d. slotter

D

38. A cylindrical bar of steel with threads formed around it and grooves or flutes running lengthwise in it, intersecting with threads to form cutting edges. It is used to cut internal threads.
a. Groove b. Lap
c. Tap d. Flute

C

39. The operation of making a cone-shaped enlargement of the end of a hole, as for a recess for a flat head screw.
a. Counter sinking
b. Knurling
c. Squaring
d. Performing

A

40. It is an operation of sizing and finishing a hole by means of a cutting tool having several cutting edges.

a. Notching
b. Piercing
c. Turning
d. Reaming

D

40. The hop term used to include the marking or inscribing of center points circle area of straight lines upon metal surface either curve or flat, for the guidance of the worker called:

a. Shaping
b. Hobbing
c. Laying out
d. Shaping

C

41. It is used to true and align machine tools fixtures and works to test and inspect size trueness of finished work and compare measurements either heights or depths or many other measurements.

a. dial gage
b. dial indicator
c. tachometer
d. speedometer

B

42. The process of forming metals by the use of dies after the metal is heated to its plastic range.

a. Rolling
b. Forging
c. Turning
d. Casting

A

43. A machine tool used to cut metals a lift, medium and large section using a reciprocating hacksaw blade.

a. Tool grinder
b. Shaper
c. Planer
d. Power saw

D

44. The usual value of helix angle of a drill is:

a. 30^o
b. 60^o
c. 110^o
d. 120^o

A

45. Wiping is the process of:

a. applying flux during welding process
b. cleaning the welded surface after the welding operation is over
c. connecting load pipes by soldering alloy
d. low temperature welding

C

46. In Carthias process

a. molten metal is fed into the cavity in metallic mould by gravity
b. metal is poured into die cavity and after a predetermined time the mould is inverted to permit a part of main steel in molten state to flow out of cavity
c. cavity is filled with a precalculated quantity of metal and a core or plunger is inserted to force the metal into cavity
d. metal is forced into mould under high pressure

C

47. What is the purpose of riser?

a. Feed the casting at a rate consistent with the rate of solidification
b. Act as a reservoir for molten metal
c. Help feed the casting until oil solidification takes place
d. Feed molten metal from pouring basin to gas

C

48. The mould for casting ferrous materials

a. Copper
b. High carbon steel
c. Low carbon steel
d. Medium carbon steel

A

49. A plug gage is used to measure

a. cylindrical bores
b. screw thread
c. spherical holes
d. taper bores

A

50. When large number of components are turned and parted off a bar the chuck generally used is the _____.

a. collet chuck
b. four jaw chuck
c. magnetic chuck
d. two jaw chuck

C

51. Which of the following is the cutting speed m of brass?

a. 30m/min
b. 40m/min
c.50m/min
d. 60m/min

B

52. Quick return mechanism is used in a

a. drilling machine
b. grinder
c. lathe
d. shaper

D

53. Mandrel used to hold

a. cutting tool
b. drill bits
c. face plate
d. hollow work pieces

D

54. In up cut milling, the work piece is fed

a. against the milling cutter
b. at an angle of 60^o at the center
c. at the right angle of the cutter
d. the direction of the cutter

A

55. Sprue is passage provide for the

a. out flow
b. in flow
c. smooth flow
d. solidification of molten material

B

56. Feed in the lathe machine is expressed in

a. mm
b. mm per degree
c. mm per revolution
d. rpm

C

57. Rapping allowance is provided on a pattern take care of

a. shrinkage
b. machining
c. distortion
d. easy withdrawal

D

58. Chuck use in turret lathe is
a. collet chuck
b. four jaw self centering chuck
c. magnetic chuck
d. three jaw chuck

D

59. Cape in foundry practice refers to
a. bottom half of molding box
b. coating on the mold face
c. middle portion of the mold
d. top half molding box

D

60. A vent wire is use in
a. foundry
b. hot forging
c. cold forging
d. fitting

B

61. Angle plate is used for
a. cutting tapers in a lathe
b. cutting gears in a shaper
c. cutting gears in a milling
d. fixing job out angle in a grinder

B

62. Permeability, in relation to molding sands, is high for
a. coarse grain
b. fine grains
c. medium grains
d. round grains

A

63. The purpose of tumbler gears in lathe is to
a. cut gears
b. cut thread
c. give desired direction of the movement to the lathe carriage
d. reduce spindle speed

C

64. A sine bar cannot be used without a/an
a. angle gage
b. micrometer
c. slip gage
d. vernier caliper

A

65. The operation of finishing drilled hole to the correct size is known as
a. counter boring
b. counter sinking
c. reaming
d. spot facing

C

66. When the outer corners of the cutting edges of a drill wear away to rapidly, it is an indication of?
a. not enough speed
b. too much rake angle
c. too much high speed
d. B or C

D

67. Carbon steel should be operated at
a. speed greater than that when using a high speed drill
b. speed less than that when using a high speed drill
c. the same speed as that using a high speed steel
d. none of the above

B

68. Knurling is done to_____.
a. boring
b. chamfering
c. planning
d. turning

B

69. When material in a lathe, the harder the material being cut, the tool bit should have
a. less side rake
b. more side rake
c. more top rake
d. no side rake

A

70. After grinding the tool bit; the cutting edge should be
a. case hardened
b. rubbed with emery cloth
c. rubbed with crocus cloth
d. stoned with oil stone

D

71. When cutting material in a lathe, the softer the material being cut, the tool bit should have
a. any of these
b. double top rake
c. less top rake
d. more top rake

C

72. A piece of cast iron hold against an emery wheel will give off
a. bright shiny sparks
b. dull yellow sparks
c. red sparks
d. no sparks

B

73. The alignment of coupling faces can checked by
a. inserting a feeler gage between coupling faces at various points around the circumference
b. inserting thermometer
c. rotating and measuring to nearest permanent fitting
d. using an inside micrometer

A

74. A drill bit has
a. 1 flute
b. 2 flutes
c. 3 flutes
d. 4 flutes

B

75. When using a drill press, the work should be held with
a. a pair of pulley
b. a vise or clamp
c. gloves on
d. the hand

B

76. When a lathe is put into back gear, it will go
a. at a slower speed backwards
b. at the same speed backward
c. faster
d. slower

D

77. On a lathe, the dead center is used after

a. boring
b. center-drilling
c. drilling
c. reaming

B

78. The best file to use when finishing sharp corner or a lots of grooves is the

a. jewelry file
b. knife file
c. mill file
d. square file

B

79. Never use a file

a. that is dirty
b. with a tang
c. without a handle
d. without oiling

B

80. Which of the following information is necessary when ordering a file

a. size
b. shape
c. type of teeth
d. all the above

D

81. When filling a piece of metal in a lathe if short quick strokes are used the finished piece will probably

a. be out of round
b. be perfect
c. have small flat areas on the surfaces
d. A and C

D

82. The best procedure when filling a piece of metal in a lathe is to take _____

a. long fast stroke
b. long slow stroke
c. short even stroke
d. short fast stroke

B

83. Small piece of metal clogged between the teeth on a file are called

a. bumps
b. clogs
c. flats
d. pins

D

84. Finishing off a piece of metal with a real smooth finish can be done by

a. draw-filling
b. flat-filing
c. milling-filing
d. slide-filing

A

85. For finishing a piece of work to size the file to use is the

a. crossing file
b. double-cut fine-tooth file
c. mill file
d. single-cut fine-tooth file

D

86. For filling lead or babbit, use a

a. lead float file
b. mile file
c. vixen file
d. A and C

D

87. A hacksaw blade with 32 TPI is best suited for cutting

a. small tubing
b. conduit
c. sheet metal under 18 gage
d. any of the above

D

88. A coolant is used when cutting a material in a power hacksaw to

a. absorb heat of friction
b. prevent the blade from overheating
c. prevent the blade from loose temper
d. all of the above

D

89. A hacksaw blade with 10 teeth per inch is best suited for cutting

a. aluminum
b. cast iron
c. solid iron
d. any of the above

D

90. When cutting a long thin piece of metal

a. set the blade in the frame with the teeth facing toward you
b. turn the blade at right angles to the frame
c. turn the blade upside down in the frame
d. use a blade with fewer teeth per inch

B

91. The hacksaw blade should be placed in the frame with

a. one end looser than the other end
b. the teeth facing in any direction
c. the teeth pointing backward
d. the teeth facing forward*

D

92. A hacksaw blade with 34 teeth per inch should be used for cutting

a. brass
b. cast iron
c. heavy
d. thin wall tubing

D

93. All hard hacksaw blade is best suited for work on

a. brass
b. cast iron
c. tool steel
d. any of the above

D

94. A hacksaw blade with 14 TPI is best suited for cutting

a. cold rolled steel
b. hot rolled steel
c. structural steel
d. any of the above

D

95. Files are divided into two general classes, namely

a. flat shapes and round shapes
b. large and small
c. rough and smooth
d. single-cut and double-cut

D

96. A hacksaw blade can be placed in a frame in

a. one position
b. two positions
c. three positions
d. four positions

D

97. A hard hacksaw blade is one that

a. has a hard back and flexible teeth
b. has a flexible back and hared teeth
c. has the entire blade hardened
d. will only fit a solid frame hacksaw

C

98. Hacksaw blade with 24 TPI is best suited for cutting
a. brass and copper
b. sheet metal over 18 gages
c. tubing
d. any of the above

D

99. Hacksaw blades are made of
a. high speed
b. tool steel
c. tungsten alloy steel
d. any of the above

D

100. A flexible hacksaw blade is one that has
a. a movable blade
b. flexible ends
c. only the back hardened
d. only the teeth hardened

D

101. When lathe tool bit burns, it means that the
a. speed is too low
b. speed is too fast
c. material is too hard
d. material cannot be done

B

102. The lathe compound is used for
a. angle cutting
b. grooving
c. facing
d. any of the above

D

103. A universal chuck cannot be used to cut
a. an accentric
b. a round stock
c. a cam
d. A and C

D

104. The jaw of a standard vise is
a. hard
b. semi-hard
c. semi-soft
d. soft

A

105. When facing off a piece of material in the lathe chuck the bit must be set
a. above center
b. at the center
c. below the center
d. off center

B

106. The out break of fire can be avoided by preventing:
a. fuel
b. heat
c. oxygen
d. any one of the above*

107. The square head of a combination set is used for marking or checking the angles:
a. 90^o only
b. 45^o only
c. 90^o and 45^o *
d. any angle between $0\text{-}180^o$

108. Angle plate is made of:
a. closed grain cast iron *
b. cast steel
c. tool steel
d. high speed steel

109. The eye hole of a hammer head is made in oval shape and taper towards centre because:
a. it is easy for production
b. it is specially designed by experts
c. it accommodates the handle and a wedge for preventing it from flying off*
d. none of the above

110. The jaws of a leg vice are opened:
a. parallel to each other
b. in 'V' form*
c. A and B both
d. neither A nor B

111. For general work the cutting angle of a cold flat chisel is ground at an angle of:
a. 80^o
b. 70^o
c. 60^o *
d. 35^o

112. A new hacksaw blade should not be used in old cut because:
a. the blade is very costly
b. the blade have very sharp teeth
c. the space is not sufficient to play the new blade in the old cut *
d. none of the above

113. Which of the following file is not hardened:
a. tang *
b. heel
c. body
d. point

114. In case of a flat scraper, the depth of the cut is verified by:
a. changing the convexity of the cutting angle
b. changing its inclination *
c. changing its weight
d. none of the above

115. Generally spiral fluted reamer has spirals of:
a. left hand *
b. right hand
c. straight
d. none of the above

116. In which screw thread the side = width of flat = width space = 0.5p
a. knuckle
b. buttress
c. square *
d. acme

117. A stud is which:
a. have threads on one end
b. require a nut
c. inserted in a plane hole
d. none of the above *

118. '18 – 8' stainless steel means:
a. 18% Tungsten and 8% Chromium
b. 18% Chromium and 8% Nickel*
c. 18% Nickel and 8% Chromium
d. 18% Chromium and 8% Cobalt

119. Which is the lightest metal:
a. lead
b. G.I. Sheet
c. aluminum *
d. cast iron

120. Hardened steel parts have:
a. fine grains *
b. coarse grains
c. medium grains
d. none of the above

121. Concentricity of a outside diameter can be checked by:
a. vernier caliper
b. outside micrometer
c. dial test indicator *
d. tube micrometer

122. Which micrometer has no anvil:
a. outside micrometer
b. depth micrometer *
c. screw thread micrometer
d. digit micrometer

123. Which micrometer is available with extension rods:
a. outside micrometer
b. inside micrometer *
c. screw thread micrometer
d. combi micrometer

124. Which gauge is used to check the internal threads:
a. plug gauge
b. ring gauge
c. thread plug gauge *
d. thread ring gauge

125. In case of a limit plug gauge which size will not enter into the hole:
a. 'Go' size
b. 'Not Go' size *
c. A and B both
d. none of the above

126. Limit gauge is made to the _____ sizes of the work to be measured:
a. actual and nominal
b. nominal and upper limit
c. nominal and lower limit
d. minimum and maximum *

127. 'Go' limit is:
a. upper limit of shaft
b. lower limit of shaft
c. A and B both *
d. neither A and B

128. Lapping is done:
a. to finish the job to a fine degree of accuracy
b. to get high quality of surface teeth
c. to control the size
d. all of the above *

129. In which method a bore is finished to a very closed tolerance:
a. lapping
b. honning *
c. grinding
d. turning

130. Jig bushings are generally made of:
a. mild steel
b. cast iron
c. tool steel *
d. brass

131. Fixture clamps are generally made of:
a. high carbon steel
b. case hardened mild steel *
c. high speed steel
d. alloy steel

132. Successful designing of jigs and fixtures depend upon:
a. clamping arrangement
b. tool guiding elements
c. manufacturing conditions
d. all of the above *

133. When an external gear is meshed with an internal gear, the gears will rotate in:
a. same direction *
b. opposite direction
c. will not rotate
d. none of the above

134. While soldering the flux is used because:

a. it assists for quick melting and increasing the fluidity of solder
b. it saves the part from oxidation
c. it takes the molten metal on all surfaces
d. all of the above *

135. A usual ratio of soluble oil and water used in coolant is:
a. 1 : 10
b. 10 : 1
c. 1 : 20 *
d. 20 : 1

136. If rpm = 200, feed per revolution = 0.05mm, then feed per minute will be:
a. 100mm
b. 10mm *

c. 4mm
d. 1mm

137. For a given rpm. If the diameter if a twist drill increases, then the cutting speed will:

a. increase *
b. decrease
c. same
d. none of the above

138. An advance motion along the longitudinal axis of a twist drill is called:

a. speed
b. feed *
c. cutting speed
d. none of the above

139. In internal cylindrical grinding the grinding wheel and the work rotate in:

a. same direction
b. opposite direction *
c. neither A and B
d. A and B both

140. For grinding materials having low tensile strength which abrasive is used:

a. silicon carbide *
b. aluminum carbide
c. emery
d. corrundum

141. The size of a grinding wheel is taken from:

a. diameter of wheel
b. bore size
c. width of face
d. all of the above *

142. Which center is used for supporting open end of pipes, shells etc. while turning or thread cutting in a lathe:

a. ball centre
b. half centre
c. pipe centre *
d. female centre

143. When outside diameter of a job is turned in relation to the internal hole, the job should be held:

a. in three jaw chuck
b. on lathe mandrel *
c. on face plate
d. between centres

144. The included angle of a dead centre is:

a. 30^o
b. 45^o
c. 60^o *
d. 90^o

145. The angle of B.A. screw thread is:

a. 60^o
b. 55^o
c. 45^o
d. 47.5^o *

146. Main alloying element in H.S.S. is:

a. chromium
b. vanadium
c. tungsten *
d. nickel

147. The value of one micron is:

a. 1.00 mm
b. 0.10 mm
c. 0.01 mm
d. 0.001 mm *

148. For the accurate measurement of bores, the best instrument is:

a. vernier caliper
b. dial test indicator
c. plug gauge
d. inside micrometer *

150. Under sine principle the length of sine bar takes the place of:

a. opposite side
b. adjacent side
c. hypotenuse *
d height

151. In a hydraulic driven shaper the metal is removed at:

a. higher speed *
b. lower speed
c. average speed
d. none of the above

152. In a shaper the cutting speed (metric) is expressed in:

a. meter per minute *
b. meter per second
c. meter per hour
d. none of the above

152. Amount of automatic feed in shaper is increased by taking the crank pin:

a. at the centre of crank disc
b. towards the centre of crank disc
c. away from the centre of crank disc *
d. none of the above

153. In a shaper the feed (metric) is usually expressed in:

a. mm / stroke *
b. mm / revolution
c. meter / minute
d. none of the above

154. For cutting gear teeth in a shaper, the _____ tool is used:

a. gooseneck
b. 'V' shaped
c. round nose
d. form *

155. Shaper tool bit should not extend in tool holder beyond:

a. 5 mm
b. 15mm *
c. 25mm
d. 50mm

156. The standard ratio of cutting to return stroke in shaper is:

a. 3 : 1
b. 1 : 3
c. 2 : 3

d. 3 : 2 *

157. A tipped tool is more useful than H.S.S. tool because:
a. it can resists more heat
b. it can keep the cutting point sharp
c. cutting speed can be increased
d. all of the above *

158. The feed in shaper takes place at:

a. the beginning of return stroke
b. the beginning of cutting stroke
c. the middle of return stroke
d. the end of return stroke *

159. Which of the following quick return mechanism is most widely used in most of the slotters:
a. whitworth mechanism *
b. slotter disc mechanism
c. hydraulic mechanism
d. slotter link and gear mechanism

160. In a slotter the cutting speed depends upon:
a. materials to be used
b. materials of the slotter tool
c. finish required
d. all of the above *

161. The clamping block to be used in a slotter to support the end of the strap is made of:
a. H.S.S.
b. high carbon steel
c. lead
d. wood *

162. Divided table planer has:
a. one table
b. two tables *
c. one housing
d. two housing

163. The straddle milling is done by means of two:
a. side milling cutters *
b. plain milling cutters
c. face milling cutters
d. form cutters

164. The formula to find out the number of turn of the crank for simple indexing is:
a. T = 20 / N
b. T = N / 20
c. T = 40 / N *
d. T = N / 40

165. In a standard worm dividing head the ration between the worm wheel and the worm is:
a. 10 : 1
b. 20 : 1
c. 30 : 1
d. 40 : 1 *

166. In a standard dividing head 3 holes in 27 holes circles will be:
a. 6^o
b. 4^o
c. 2^o
d. 1^o *

167. Planer type milling machine is built up for work of:
a. light duty
b. heavy duty *
c. medium duty
d. none of the above

168. In a straddle milling operation how many cutters are used to mill the work:
a. one
b. two *
c. three or more
d. any one of the above

169. For gear cutting which cutter is used:
a. end mill cutter
b. plain milling cutter
c. form relieve cutter *
d. all of the above

170. The approximate hardness of HSS end mill cutter is:
a. 45 HRC
b. 52 HRC
c. 62 HRC *
d. 72 HRC

171. The over arm of a milling machine is used to support:
a. spindle
b. arbor *
c. column
d. table

172. Which of the following conditions may cause error during knurling:
a. to much longitudinal feed *
b. clamped length of tool too short
c. surface speed too low
d. unnecessary support with tail stock centre

173. Mark the cutter which works simultaneously with up cut and down cut process:
a. side milling cutter
b. semi-circular milling cutter
c. shell end mill *
d. plain milling cutter

174. A polygon with 9 flats is to be milled using the indexing head. The indexing head transmission ratio is 40 : 1. Determine the number of crank rotation and mark the correct answer:
a. 9 full rotation
b. 5 full rotation, 2 holes on the 36 hole circle
c. 4 full rotation, 12 holes on the 27 hole circle *
d. 2 full rotation, 16 holes on the 47 hole circle

175. Where the relieved cutters are reground:
a. on the circumstances
b. relieved cutters are not reground
c. on the flank *
d. on the side faces

176. What happens if the job is loosely fitted between centres in cylindrical grindings:

a. the job will be out of round *
b. the job will be oversized
c. the job will be thrown out
d. the job will not rotate

177. Which of the following is used to clean the gauge blocks before and after use:

a. brush
b. cotton waste
c. chamois leather or lenen cloth *
d. none of the above

178. One of the cause of grinding wheel glazing is:

a. grain size is too fine
b. wheel is hard
c. wheel speed is too fast
d. A and B both *

179. The grade of grinding wheel depends upon:

a. grain size
b. structure
c. kind of abrasive
d. hardness of bond *

180. Which kind of bond is commonly used:

a. vitrified *
b. rubber
c. shellac
d. silicon

181. A grinding wheel has got the marking 'C', is made with the abrasive:

a. aluminum oxide
b. silicon carbide *
c. combination of A and B
d. corrundum

182. As per Indian standard, the grain size 46 comes under the group:

a. coarse grain
b. medium grain *
c. fine grain
d. very fine grain

183. As per Indian standard 'M' grade wheel comes under the group:

a. soft
b. medium *
c. hard
d. none of the above

184. The symbol conventionally used for resinoid bond is:

a. 'V'
b. 'R'
c. 'B' *
d. 'E'

185. A grinding wheel is marked as 51A 46L 5V 23, out of these 5 means:

a. kind of abrasive
b. kind of bond
c. structure *
d. grain size

186. Balancing of grinding wheel is done to:

a. make the outside diameter concentric with the bore
b. make the sides of wheel parallel
c. equalize the weight in every portion of the wheel *
d. none of the above

187. Grinding fluids are used to:

a. reduce the friction between the wheel face and the job
b.
c. prevent loading of wheel
d. all of the above *

188. Taps are resharpened by grindings:

a. flutes *
b. threads
c. diameter
d. relief

189. In vertical milling machine the spindle Is attached _____ to the work table.

a. horizontal
b. vertical*
c. angular
d. none of the above

191. Planer type milling machine is built up for ____ work of:

a. light duty
b. heavy duty *
c. medium duty
d. none of the above

192. In a straddle milling operation how many cutters are used to mill the work:

a. one
b. two *
c. three or more
d. any of the above

193. For gear cutting which cutter is used.

a. end mill cutter
b. plain milling cutter
c. form relief cutter*
d. all of the above

194. In a slotter the table gets ___ different feeds.

a. one
b. two
c. three*
d. none of the above

195. If the clearance of a cutting edge is 5 degree, the lip (wedge) angle in 75 degree the rake angle will be,

a. 80 degree
b. 70 degree
c. 10 degree*
d. none of the above

196. The approximate hardness of HSS and mill cutter is,

a. 45 HRC
b. 52 HRC
c. 62 HRC*
d. 72 HRC

197. The over arm of a milling machine is used to support

a. spindle
b. arbor
c. column
d. table*

198. Where does the speed motion takes place in slotting machine?

a. during the cutting motion
b. after each forward stroke
c. at the end of return motion
d. after each double stroke*

199. Which of the following conditions may cause error during knurling?

a. too much longitudinal feed*
b. clamped length of tool too short
c. surface speed too low
d. unnecessary support with tool stock center

200. Mark the milling method during which the formation of chatter marks is very likely.

a. during down cut milling with a straight tooth cutter
b. during up cut milling with a straight tooth cutter*
c. during face milling with a straight tooth cutter
d. while using spiral tooth cutter

201. Mark the cutter which works simultaneously with the up cut and down cut process:

a. side milling cutter
b. semi circular milling cutter
c. shell end mill*
d. plain milling cutter

202. Where the relieve cutter are reground?
a. on the circumstances
b. relieve cutters are not reground
c. on the flank*
d. on the side faces

203. What happens if the job is loosely fitted between centers in cylindrical grindings?
a. the job will be out on round*
b. the job will be oversize
c. the job will be thrown out
d. the job will not rotate

204. The internal and external taper on cylindrical jobs are ground in:
a. plain cylindrical grinding machine
b. universal cylindrical grinding machine*
c. internal grinding machine
d. centerless grinding machine

205. Which of the following is used in cleaning the gage blocks before and after use?
a. grain size is too fine
b. wheel is hard
c. wheel speed is too fast
d. a and b both*

206. The grade of grinding wheel depends upon
a. grain size
b. structure
c. kind of abrasive
d. hardness on bond*

207. Which kind of bond is commonly used?
a. vitrified*
b. rubber
c. shellac
d. silicon

208. Which bond is suitable in wet grinding?
a. rubber
b. silicate*
c. shellac
d. non of the above

209. A grinding wheel which has got the marking “C” is made with the abrasive?
a. aluminum oxide
b. silicon carbide*
c. combination of a and b
d. corrundum

210. As per india standard the grain size 46 comes under the group:
a. coarse grain
b. medium grain*
c. fine grain
d. very fine grain

211. As per indian standard “M” grade wheel comes under the group:
a. soft
b. medium*
c. hard
d. non of the above

212. The symbol resinoid bond is:
a. “V”
b. “R”
c. “B”*
d. “E”

213. The grinding wheel is marked as 51A 46L 5V 23, out of these 5 means:
a. kind of abrasive
b. kind of bond
c. structure*
d. grain size

214. Balancing of grinding wheel is done to:

a. make the outside diameter concentric with the bore
b. make the sides of wheel parallel
c. equalize the weight in every portion the wheel*
d. none of the above

215. The common measuring tools are:

a. steel rule
b. vernier caliper
c. micrometer
d. all of the above*

216. It is an operation in stretching or spreading over the metal by means of the plane of the hammer.

a. peening*
b. swaging
c. bending
d. upsetting

217. The good quality of a measuring tool.
a. should be easy to handle
b. should be easy to read
c. should be wear resistance
d. all of the above*

218. A notching device, which is used to hold or grip work place, while filing, chipping or any other bench work or while machining or drilling them.
a. vise*
b. clamp
c. grip
d. pressed

219. A multi pointed hand anything tool used to remove material from metallic and non-metallic work places to match with drawing, shape and size.
a. cold chisel
b. file*
c. hacksaw
d. none of the above

220. A side cutting tool used for accurately finishing the straight or tapered holes already drilled or bored
a. reamer*
b. swaging
c. peening
d. tapping

221. A devise used to fix two or more parts
a. jigs
b. fixtures
c. fastener*
d. clamps

222. A machine element inserted parallel to the axis of the shaft
a. fastener
b. cutter
c. key*
d. none of the above

223. A machine element inserted at the right angle to the axis of the shaft is known as
a. fastener
b. cutter*
c. key
d. clamp

224. The process of extracting iron in a blast is called
a. sintering
b. smelting*
c. casting
d. manufacturing

225. Which of the following is a product of a blast furnace?
a. wrought iron
b. cast iron
c. pig iron*
d. gray iron

226. A type of iron which contains 3 to 305% carbon either in, combined form or in true state.

a. wrought iron
b. cast iron*
c. pig iron
d. gray iron

227. Which of the following furnace used for manufacture of cast iron?
a. cupola furnace
b. crucible furnace
c. electric furnace
d. all of the above*

228. A product of paddling furnace, which contains less than 0.10% carbon, is called
a. wrought iron*
b. cast iron
c. pig iron
d. gray iron

229. Which of the following is a property of wrought iron?
a. ductile*
b. brittle
c. cannot be forged
d. can be easily cast into different shapes

230. Which of the following gives greater hardness, cutting toughness and fine grain structure?
a. chromium*
b. nickel
c. tungsten
d. vanadium

231. It is the process for making the outer surface harden of the steel part.
a. frame hardening
b. hardening
c. case hardening*
d. carburizing

232. It is a case hardening process by which the carbon content of the steel near the surface of a part is increased.
a. nitriding
b. tempering
c. carburizing*
d. flame hardening

233. It is a case hardening process in which work piece is heated in a steam of ammonia at 500 to 550 C.
a. carburizing
b. nitriding*
c. tempering
d. normalizing

234. The size by which it is referred to as a matter of convenience called:

a. basic size
b. actual size
c. nominal size*
d. effective size

235. It is a device which hold the job in position and guide the cutting tool

.

a. clamp
b. jig*
c. vise
d. grip

236. It is a device which hold the job firmly.
a. clamp
b. grip
c. fixture*
d. jig

237. It is the outer surface of face of rim of the pulley and made in convex form to keep the belt in center when it is in n

a. crowning*
b. dressing
c. creep
d. slip

238. It is used to transmit motion at high speed without producing noise.
a. bevel gears
b. hypoid gears
c. helical gears*
d. worm gears

239. It is used t transmit motion at high speed with heavy load without producing noise.

a. worm gear
b. herring bone gear*
c. bevel gear
d. spur gear

240. It is used to connect and disconnect the driving and driven units.
a. brake
b. spring
c. clutch*
d. coupling

241. It connect the shafts with soft material such as rubber, leather and canvass.

a. universal coupling
b. flexible coupling*
c. rigid coupling
d. oldhm coupling

242. What is used to connect the shafts whose axes are intersecting?
a. rigid coupling
b. oldham coupling
c. flexible coupling
d. universal coupling*

243. It is generally used on high speed with light load because it has point contact.
a. ball bearing*
b. roller bearing
c. metal bearing
d. wood bearing

244. It is generally used on high speed with heavy load because it has line contact.
a. plastic bearing
b. metal bearing
c. roller bearing*
d. ball bearing

245. It is a process by which the length of a work place is increased by reducing its cross sectional area.
a. drawing out*
b. drifting
c. jumping
d. upsetting

246. It is process by which the length of a work piece is reduced
a. upsetting
b. drawing out
c. drifting
d. jumping*

247. It is a set of gears fitted in different positions on a plain, which are controlled by a lever.
a. gear train
b. stud gear
c. tumbler gear*
d. differential gear

248. It moves on the lathe bed with cutting tool according to the rotation of lead screw or by the hand traversing wheel
a. apron
b. compound rest
c. saddle*
d. mandrel

249. It acts the carriage or compound rest through the mechanism lifted inside the _____
a. saddle
b. apron*
c. compound
d. mandrel

250. It gives the cutting tool longitudinal feed, cross feed or angular feed.
a. compound rest*
b. apron
c. saddle
d. carriers

251. A holding device used to hold the job properly when turning the outer surface through the finished hole called
a. clamp
b. fixture
c. jig
d. mandrel*

252. Which of the following gives shearing action?
a. slide rake
b. top rake*
c. side clearance
d. front clearance

253. What supports top rake?
a. front clearance*
b. side clearance
c. side rake
d. front clearance

255. Which of the following reduces the rubbing action?
a. front clearance*
b. side clearance
c. slide rake
d. top rake

255. Which of the following is used for all general purposes?
a. production process
b. puncher slotter*
c. tool room slotter
d. none of the above

256. It is an operation of milling the complex surfaces with the help of a group cutters mounted on the same arbor.
a. gang milling*
b. straddle milling
c. climb milling
d. down milling

257. It is an operation of milling two opposite sides of work place at a time by using two side milling cutters on the same arbors.
a. gang milling
b. straddle milling*
c. side milling
d. face milling

258. It is an attachment to the milling machine which helps to divide the job periphery into a number of equal divisors.
a. index
b. dividing head*
c. slotting
d. universal spiral

259. It is an operation to divide the periphery of the job into the number of equal parts accurately.
a. dividing head
b. indexing*
c. slotting
d. none of the above

260. The angle formed between the face of the tool and work surface or the tangent to the work place at the point of contact with the tool called
a. clearance angle
b. cutting angle*
c. rake angle
d. wedge angle

261. The size of the tri square is measured from the inner edge of stock to the end of its _____
a. base
b. blade*
c. edge
d. body

262. The best method of avoiding accident is by observing _____ related to job, machine and work place.
a. emery
b. opponent
c. safety precaution*
d. cleanliness

263. Mallets are made of _____
a. hardwood*
b. soft wood
c. steel
d. cast iron

264. Staggering of hacksaw blade teeth on both sides alternately is called
a. positioning the teeth
b. arrangement of teeth
c. setting of teeth*
d. none of the above

265. The size of a file is measured from _____ to heel of the file.
a. Edge
b. Base
c. Point*
d. body

266. It is the distance measure to the axis from a point on a screw thread to the corresponding point on the next thread.
a. lead
b. pitch*
c. linear
d. chord

267. Solder is an alloy of _____
a. lead and zinc
b. lead and tin*
c. lead and tungsten
d. lead and antimony

268. It is a machine tool used for cutting flat surfaces by reciprocating a single point tool across the work piece.
a. planer
b. shearing machine
c. shaper*
d. slab cutter

269. It is the machine used for shaping of metal or plastic by pushing or pulling a broaching across a surface or through an centering hole in a work piece.
a. planning
b. shaping
c. broaching*
d. milling

270. It is a milling method in which parts placed in a row parallel to the axis of the cutting tool end are milled simultaneously.
a. abreast milling*
b. angular milling
c. helical milling
d. none of the above

271. A core drill with hardened steel shot pallets that revolve under the rim of the rotating tube, employed in rotary drilling in every hard ground.
a. automatic drill
b. double core barrel drill
c. flat drill
d. adamantine drill*

272. The part of the machine for wood planning that carries the cutter.
a. adz stock
b. adz block*

c. head stock
d. head block

273. It is a hole revolving cutter or grinder wheel for mounting it on an arbor.
a. hole saw
b. arbor hole*
c. star drill
d. punp hole

274. A machine used for forcing an arbor or a mandrel into drilled or bored parts preparatory to turning or grinding
a. automatic press
b. bladder press
c. arc press
d. arbor press*

275. A machine in which material pulverized between two toothed metal disks rotating in opposite directions.

a. attrition mill*
b. tumbling mill
c. ball mill
d. beater mill

276. A press in which mechanical feeding of the work is synchronized with the press action.

a. dial press
b. punch press
c. automatic press*
d. manual press

277. A file whose edges are parallel is known as

a. crochet file
b. cross cut file
c. equaling file
d. blunt file*

278. Which of the following is a boring machine tool used particularly for large work piece, types are horizontal and vertical
a. boring mill*
b. burrstone mill
c. cage mill
d. chile mill

279. A tap with a chamfer 1-1 1/2 threads in length
a. center tap
b. bottom tap*
c. taper tap
d. plug tap

280. A small portable hand drill customarily used by hand setters to drill hole in breast called
a. diamond drill
b. spiral drill
c. chum drill
d. breast drill*

281. The spindle of the grinding machine on which the wheel is mounted
a. bushing
b. arbor*
c. bearing
d. fluting

282. A device for holding grinding wheels of special shape of the working piece being grounded.
a. head stock
b. fixtures
c. jigs
d. chucks*

283. Grinding grooves of a twist drill or tap.
a. fluting*
b. flaring
c. lapping
d. honing

284. The dulling of the cutting particles of a grinding wheel resulting in a decreased rule of cutting is called
a. grinding
b. glazing*
c. fluting
d. lapping

285. The process of increasing the cross-sectional area of a given portion or possibly of the whole piece.
a. forging
b. upsetting*
c. spreading
d. drawing

286. The process of lengthening a piece of stock while the cross-sectional area is being reduced.
a. tapping
b. honing
c. drawing*
d. upsetting

287. Sometimes used for soldering bright tin
a. tallow
b. sal ammonia
c. tinning
d. rosin*

288. A very effective flux for soldering galvanized iron or zinc.
a. soldering paste
b. muriatic acid*
c. zinc chloride
d. cut acid

290. The groove providing for the cutting faces of the thread or teeth, chip passage and lubrication.

a. heel
b. land
c. flute*
d. thread relief

290. The surface below the cutting edge
a. face
b. flank*
c. nose
d. side relief

291. Which is the hardest material?
a. steel

b. diamond*
c. bronze
d. brass

292. It measures the slope of top surface of the tool to the side in a direction perpendicular to the longitudinal axis.
a. side rake angle*
b. side cutting edge angle
c. side relief edge angle
d. end relief angle

293. A type of bonding material which is made of clay and water
a. resinoid bond
b. vitrified bond*
c. shellac bond
d. rubber bond

294. It is used for holding straight shank drills in the spindle of the machine when drilling
a. drill chuck*
b. chuck key
c. floating holder
d. magic chuck

295. Back rake for HSS single point cutting tool machine free cutting brass is
a. 0 deg *
b. 5 deg
c. 10 deg
d. 15 deg

296. A reamer is used to correct the
a. size and roundness of a drilled hole*
b. finish and position of a drilled hole
c. size and position of a drilled hole
d. finish and depth of a drilled hole

297. A oversize hole is produced by a drill if
a. lips of drill are of unequal length *
b. speed too high
c. insufficient coolant used
d. cutting speed is too high

298. The major factors which determine the rpm of milling cutter are the materials being cut and the _____
a. number of teeth in cutter
b. diameter of cutter
c. time allowed to complete the job*
d. depth of cutter

299. The studs used as a coolant machine shop consists of
a. solution of detergent and water]
b. a straight mineral oil
c. an emulsion of oil and water*
d. a chemical solution

300. Grinding is
a. metal fusing operation
b. metal powdering operation
c. metal finishing operation*
d. none of the above

301. Grinding is done wherever
a. other machining operation cannot be carried out
b. a large amount of material is to be removed
c. high accuracy is required*
d. none of these

302. Laser beam machining process is used to machine.

a. thicker materials
b. thinner materials*
c. heavier materials
d. stronger materials

303. Twists drills are made usually considered suitable machining holes having a length less than

a. two times the diameter
b. five times the diameter*
c. ten times the diameter
d. twenty times the diameter

304. A high grade grinding wheel is suitable for grinding,
a. hard materials
b. soft materials*
c. both materials
d. none of these

305. In quick return mechanism of shaping machine , the ram stroke length is proportional to

a. slotter arm length
b. crank length*
c. ram length
d. none of these

306. The type and number of bearings to be used for spindles of machine tool depend on the

a. type of spindle
b. type of machine tool
c. load on bearing*
d. none of the above

307. Nitriding process of surface treatment for steel tools is used for taking

a. light cuts*
b. heavy cuts
c. medium cuts
d. none of the above

308. A very low cutting speeds the tool wear is due to
a. plowing action*
b. transfer
c. material
d. temperature

309. Are mixture of hard cotton seed or rape-seed oils and mineral oils

a. cutting oils*
b. cooling oils
c. heating oils
d. emulsion

310. What is the material for hacksaw blade?
    a. high carbon steel
    b. high speed steel
    c. low tungsten steel
    d. any of the above*

311. How is rivets is made?
    a. Cold pressing *
    b. Rolling
    c. Drawing
    d. None of these

312.It is used to measure gap between two mating parts to set the job and machine in alignment and to measure clearance of piston and cylinders in automobiles

    a. Compound Gauge
    b. Feeler Gauge*
    c. Inspection Gauge
    d. Workshop Gauge

313. The movement of belt upon the face of rim or outer surface of the driver and the driven pulleys within the area of arc of contact.

    a. Compound Gauge
    b. Feeler gauge*
    c. Inspection Gauge
    d. Workshop gauge

314.The movement of belt upon the face of rim or outer surface of the driver and the driven pulleys within the area of arc of contact.

    a. Slip
    b. Creep *
    c. Interference
    d. Crowning

315. It is the process by which the length of a work piece reduced.
    a. Drawing
    b. Drifting
    c. Jumping *
    d. Upsetting

316. It cannot be forged because it will break if heated and beaten by hammer.
    a. High speed steel
    b. Tool steel
    c. Carbon steel
    d. Cast iron *

317. It is a process of enlarging and smoothing the punched hole by means of tapered drifts of various sizes and shapes.
    a. Drifting *
    b. Drawing
    c. Jumping
    d. Upsetting

318. Shaper tools are made of what type of material?
    a. Brass
    b. Bronze
    c. High speed steel *
    d. Babbit

319. An operation of enlarging the previous drilled hole
    a. Drilling
    b. Boring *
    c. Reaming
    d. Broaching

320. An operation to make smaller hole in exact center for lathe center
    a. Broaching
    b. Reaming
    c. Counter boring
    d. Center bearing *

321. The size of abrasive grains produced by crushing process is called..
    a. Grade
    b. Grit *
    c. Grill
    d. None of the above

322 .It is also known as slab peripheral milling.
    a. Form milling
    b. Climb milling
    c. Convex milling
    d. Plain milling *

323. In _____ the tool is released in return stroke.
    a. Shaper*
    b. Planer
    c. Slotter
    d. Reamer

324. It is the process of driving the periphery of the job in degrees.
    a. Direct indexing
    b. Plain indexing
    c. Differential indexing
    d. Angular indexing *

325. It is a method of grinding cylindrical surfaces.
    a. Center less grinding *
    b. Plunge – cut grinding
    c. Through feed grinding
    d. None of the above

326. It is the angle between the side cutting edge and longitudinal axis of the tool.
    a. Side cutting edge angle *
    b. End cutting angle
    c. Side relief angle
    d. End relief angle

327. It is a surface finishing process and is used to produced a lustrous surface of attractive appearance.
    a. Polishing
    b. Buffing *
    c. Lapping
    d. Glazing

328. A _____ is formed when a shaft rotates in a bush, lines of the bore of a housing.

    a. Ball bearing
    b. Roller bearing
    c. Plain bearing*
    d. Needle bearing

329. CNC in machine shop means

a. Computer number control
b. Computer numerical control*
c. Computer network center
d. Communication network control

330. It is the time lost due to break downs, waiting for tools, minor accident, etc..

a. Set up time
b. Handling time
c. Machining time
d. Down time *

331. Refers to the process of separating or removing the burning of combustible material from the neighborhood of the fire.

a. Starvation *
b. Blanketing
c. Cooling
d. None of the above

332. What is necessary to provide tolerance?

a. It serves the labor charges
b. It saves the material from westage
c. It saves the time
d. All of the above *

333. It is done then and there by adjusting or repairing the fouls come in notice during the work.

a. Preventive maintenance
b. Predictive maintenance
c. Routine maintenance *
d. Corrective maintenance

334. A _____ is used between the cutting tool and work place to minimize the friction heat.

a. Lubricant
b. Coolant *
c. Water
d. Alcohol

335. Which of the following is NOT a function of bearings?

a. To support the shaft
b. To guide the shaft
c. To give free rotation to the shaft
d. To transmit power *

336. It is a process of cleaning the face of grinding wheel by means of a dresser for removing the glazing and loading of wheel and improve the cutting action of a wheel.

a. Dressing *
b. Polishing
c. Truing
d. Lapping

337. It is a long tapered punch used for loosening straight pins, rivets, and other small parts being disassembled.

a. Drive – pin punch
b. Hand punch
c. Drift punch *
d. Center punch

338. A tool used for turning nuts or bolts

a. Pliers
b. Wrench *
c. Long nose
d. C –clamp

339. A _____ is used to test accuracy of holes.

a. Snap gage
b. Ring gage
c. Plug gage *
d. Depth gage

340. A _____ consist of a hardened and ground steel bar in which two hardened and ground of the same diameter are set.

a. Caliper
b. Gage block
c. Sine bar *
d. Micrometer

341. _____ are hardened devices with a taper shank on one end and a 60 degrees point at the other end.

a. Tailstock centre
b. Lathe centers *
c. Live center
d. Dead center

342. It is large casting located on the left end of the bed.

a. Tail stock
b. Head stock
c. Carriage *
d. Chuck

343. A _____ is a thread that has a lead equal to pitch.

a. Right hand thread
b. Left hand thread
c. Single thread *
d. Multiple head

344. Used to permit lever shift for vertical travel rail.

a. Ball crank
b. Clamp plates
c. Plunger knob*
d. None of the above

345. It is mounted in the top of column and is guided in perfect alignment by the machined dovetailed surface.

a. Over arm *
b. Spindle
c. Arbor
d. Saddle

346. Refers to circular milling attachment that is bolted to the top of the table of a plain or universal milling machine.

a. Blotting attachment Rotary attachment*
b. Milling attachment
c. Spiral attachment

347. Name of mechanism, which a welding operator holds during gas welding and at the end of which the gages are burrex to perform the various gas welding operation.

a. Hose
b. Torch *

c. Gage
d. Switch

348. A fine grained salty silica rock used for sharpening edged tools.
a. Oilstone *
b. Surface grinder
c. Rocky oil
d. None of the above

349. A hand tool used to measure engine crank web deflection.
a. Feeler gage
b. Compound gage
c. Distortion gage *
d. Dial gage

350. It is used to true and align machine tools, fixtures and works.
a. Dial indicator *
b. Radial indicator
c. Dial gage
d. Feeler gage

351. It is used for cutting long places of metals.
a. Planer
b. Shaper
c. Power saw *
d. Broaching machine

352. It is used for external, internal and relieving of mill cutters and taps
a. Milling attachment
b. Thread attachment
c. Taper attachment
d. Relieving attachment *

353. Stretching or spreading of metal by hammering
a. Peening *
b. Flaring
c. Upsetting
d. Bending

354. The _____ is the most common of the standard tapers
a. Brown
b. Janno
c. Sharpe
d. Morse *

356. The ability of metal to stretch, bend or twist w/o breaking or cracking is called..
a. Elasticity
b. Ductility*
c. Brittleness
d. Plasticity

357. A fine grained salty silica rock used for sharpening edge tools
a. Eutectoid
b. Austenite
c. Oilstone *
d. Pearlite

358. Machining properties of steel can be improved by adding..
a. Chromium nickel
b. Silicon, aluminum, titanium
c. Sulfur , lead, phosphorus *
d. Vanadium, aluminum

359. A ductile fracture is characterized by
a. Appreciable plastic deformation prior to propagation of crack *
b. Fragmentation in more than two pieces
c. Negligible deformation
d. Rapid rate for crack propagation

360. Tool can be hardened by
a. Heating red hot and plunging into water
b. Heating red hot and cooling in blast of dry
c. Heating red hot and plunging into linseed or cotton lead oil
d. Any of the above, depending on type *

361. The purpose of annealing is to make the metal
a. Harder
b. Medium hard
c. Softer *
d. Shiny

362. The purpose of tempering is to make metal
a. Softer
b. Harder
c. Less brittle*
d. More brittle

363. A scriber is made of
a. Carbon tool steel
b. Cold – rolled steel
c. Hot – rolled steel
d. Tool steel *

364. It is used in steels as an alloying element to combine hardness obtained.
a. Vanadium
b. Chromium *
c. Titanium
d. Molybdenum

365. It is a process of shearing in which sheet or plate is cut out to a definite outline in a press.
a. Blanking *
b. Embossing
c. Clamping
d. Trimming

366. It is the characteristic of exhibiting different properties when tested in different directions
a. Allotropy
b. Anisotropy *
c. Isentropic
d. Isotropic

367. It is one which specimen supported at both ends as a simple beam is broken by the impact strength..
a. Charpy test *
b. Izod test
c. Rockwell test
d. Universal test

368. Which of the following metals has the highest specific heat capacity of 100ºC
a. Aluminum *
b. Bismuth
c. Copper

d. Iron

369. Which of the following types of packing would be used in steam joints?
   a. Asbestos
   b. Neoprene
   c. Metallic
   d. A or C *

370. The process applied to iron pipe which retards corrosion, is called
   a. Galvanizing *
   b. Annealing
   c. Soldering
   d. Tinning

371. A scriber is made from what metal..
   a. Carbon steel
   b. Cold rolled steel
   c. Tool steel *
   d. Hot rolled steel

372. The best file to use when finishing sharp corners or slots and grooves
   a. Jewelers file
   b. Knife file *
   c. Mill file
   d. Square file

373. Never use file
   a. That is dirty
   b. With a tang
   c. Without a handle *
   d. Without oiling

374. Which of the following information is necessary in ordering a file
   a. Size
   b. Shape
   c. Type of teeth
   d. All of the above *

375. When filling a piece of metal in a lathe if short quick strokes are used the finished piece will probably
   a. Be out of round
   b. Be perfect
   c. Have small flat areas on the surfaces
   d. A and C *

376. The best procedure when filling a piece of metal in lathe is to take
   a. Long fast stroke
   b. Long slow stroke *
   c. Short even stroke
   d. Short fast stroke

377. Small pieces of metal clogged between the teeth on a file are called
   a. Pins *
   b. Bumps
   c. Clogs
   d. Flats

378. Finishing off a piece of metal with a real smooth finish can be done by
   a. Draw filling *
   b. Flat filling
   c. Milling filling
   d. Side filling

379. For finishing a piece of work to size the file to use is the..
   a. Crossing file
   b. Double cut fine file
   c. Mill file
   d. Single cut fine file *

380. For filling lead or babbit, use a
   a. Lead float file
   b. Mile file
   c. Vixen file
   d. A or C *

381. Hacksaw blade with 32 TPI is best suited for cutting
   a. Small tubing
   b. Conduit
   c. Sheet metal under 18 gage
   d. All of the above *

382. A coolant is usually used when cutting material in power hacksaw to
   a. Absorb heat friction
   b. Prevent the blade from overheating
   c. Prevent the blade from loose its temper
   d. All of the above *

383. A hacksaw blade with 18TPI is best suited for cutting
   a. Aluminum
   b. Cast iron
   c. Solid iron
   d. Any of the above *

384. When cutting a long thin piece of metal
   a. Set the blade in the frame with teeth facing toward
   b. Turn blade at right angle to the frame *
   c. Turn the blade upside down
   d. None of the above

385. The hacksaw blade should place in the frame with
   a. One end looser than the other end
   b. The teeth facing in any position
   c. The teeth pointing backward
   d. The teeth pointing forward *

386. A hacksaw blade with 34 TPI should be use for cutting
   a. Brass
   b. Cast iron
   c. Thin wall tubing *
   d. Heavy

387. All hard hacksaw blade is best suited for
   a. Brass
   b. Cast iron
   c. Tool steel
   d. Any of the above *

388. A hacksaw blade with 14 TPI is best suited for
   a. Cold rolled steel
   b. Hot rolled steel
   c. Structural steel
   d. Any of the above *

389. Files are divided into two general classes, namely

a. Flat shapes and round shapes
b. Large and small
c. Rough and smooth
d. Single cut and double cut *

390. A hacksaw blade can be place in a frame in

a. Three position
b. Two position
c. One position
d. Four position *

391. A hard hacksaw blade is one that

a. Has a hard back and flexible teeth
b. Has a flexible back and hard teeth
c. Has the entire teeth hardened*
d. Will fit a solid frame

392. Hacksaw blade with 24 TPI is best suited for cutting

a. Brass and copper
b. Sheet metal over 18 gage
c. Tubing
d. Any of the above *

393. Hacksaw blade are made of
a. High speed steel
b. Tool steel
c. Tungsten alloy steel
d. Any of the above *

394. A flexible hacksaw blade is one that has

a. A movable back
b. Flexible ends
c. Only the back hardened
d. Only the teeth hardened *

395. The flexible type hacksaw blade is best suited for

a. Aluminum
b. Channel
c. Tubing
d. Any of the above *

396. When lathe tool bit burns, it means that

a. Speed is too low
b. Speed is too fast *
c. Material is too hard
d. Material cannot bend

397. The lathe compound is used for
a. Angle cutting
b. Grooving
c. Facing
d. Any of the above *

398. The jaw of standard vise is
a. Hard *
b. Soft
c. Semihard
d. Semisoft

399. When facing off a piece of material in lathe chuck the bit must be set _____.
a. Above center
b. At the center *
c. Below the center
d. Off center

400. Before applying layout on a piece, it must be
a. Cleaned *
b. Cold
c. Hot
d. Roughened

401. Tool steel can be hardened by
a. Heating red hot and plunging into water
b. Heating red hot and cooling in blast of dry air
c. Heating red hot and plunging line seed or cotton seed oil
d. Any of the above, depending on the type and use *

402.A piece of mild steel held against an emery wheel will give off
a. Bright shiny spark
b. Yellow sparks
c. Light straw – colored sparks*
d. No sparks

403. Another name of hydrochloric acid is
a. Acetic acid
b. Muriatic acid *
c. Nitric acid
d. Sulfuric acid

404. A flexible hacksaw blade has a tendency to _____
a. Snap easy
b. Buckle or run out of fine when too much pressure is supplied*
c. Cut too fast
d. Cut on a slant

405. A pillar file is used for _____
a. Filling against a shoulder
b. Filling keyways
c. Filling slots
d. Any of the above *

406. The length of file is used for _____
a. End to end
b. Heel to end
c. Point to end
d. Point to heel *

407. A pillar file has
a. One safe edge
b. Three safe edges
c. Two safe edges
d. A and C *

408. The “tang” is a part of file that
a. Does the cutting
b. Fits into the handle *
c. Has no teeth
d. Is opposite the handle

409. One of the factors involved in the choice of a grinding wheel is
a. The kind of material to be ground
b. The amount of stock to be removed

c. The kind of finish required
d. All of the above *

410. The main difference between a planer and a shaper is that
a. The planer has offset table and the shaper has a horizontal table
b. The shaper has a rotating table and planer has a horizontal table
c. The table of planer has a reciprocating motion past the tool head while the table of the shaper is stationary and the tool head has reciprocating motion *
d. One is larger than the other

411. A piece of tool steel is held against an emery wheel will give off _____.
a. White sparks with stars on the end *
b. Yellow sparks
c. Dull sparks
d. Green sparks

412. If you use dry a dry grinding wheel for sharpening tool bits, dip the end of he bit in water frequently to prevent _____
a. Annealing the cutting edge of the bit*
b. Burning your fingers
c. Hardening of the tip
d. The tip from crystalling

413. The tool used to check internal pipe threads is called
a. Ring gage
b. Plug gage *
c. Center gage
d. Thread gage

414. The tool used to check external pipe threads is called
a. Ring gage *
b. Plug gage
c. Pitch gage
d. Center gage

415. The operation of truing a grinding wheel is known as
a. Dressing *
b. Centering
c. Rounding
d. Sizing

416. The cutting angle on a drill for mild steel should be
a. 25º
b. 69º
c. 59º *
d. 79º

417. Which of the following is not a common drill shank?
a. Bit
b. Fluted *
c. Straight
d. Taper

418. Tapered shanks are used on a large drill press so that
a. The drill can be centered more easily
b. The drill can be easily forced out of the sleeve with a drift *
c. The shank can be reground when worn
d. The shank will not turn when cutting

419. A tool bit for cutting American National Thread should be ground with a ____.
a. 30 deg.angle
b. 45deg.angle
c. 60 deg.angle *
d. 56 deg. Angle

420. Center drilling is the operation of
a. Drilling a center in an odd – shaped of metal
b. Drilling and countersinking with one tool *
c. Centering with one tool and drilling with one another
d. Drilling a center in a piece of stock in a drill press

421. When cutting a drill, it will squeal due to _____
a. Drill being ground properly
b. Drill being too hot
c. Insufficient lubrication
d. Any of the above *

422. The correct cutting angle on a drill for ordinary work is
a. 45
b. 59*
c. 65
d. 50

423. If the cutting edges of the drill are cut of different angles _____
a. The drill will not cut
b. The hole will be larger than the drill *
c. The hole will be smaller than the drill
d. None of the above

424. If the drill speed is too great, it will
a. Cut faster
b. Loose its temper *
c. Cut slower
d. Not cut

425. Soda added to water is used for cooling instead of plain water because
a. It reduces the heat generated
b. It improves the finish
c. It overcomes rusting
d. All of the above *

426. If the angle of the drill is less than 59 deg
a. The drill will make larger hole
b. The drill will make smaller hole
c. The hole will take longer to drill and more power is required to drive the drill *
d. The drill will not center properly

427. The name of shank use to drill is
a. Stanley
b. Starret
c. Miller
d. Morse *

428. The name of shank use to drill is
a. Stanley
b. Starret
c. Morse *
d. Miller

429. The tool used to cut thread on pipe is called
   a. Pipe tool
   b. Pipe vise
   c. Pipe stock *
   d. Pipe thread

430. The instrument used to reshaped a grinding wheel that is grounded or cut of rounds is called
   a. Wheel cutter
   b. Wheel aligner
   c. Wheel emery
   d. Wheel Dresser *

431. The instrument used to removed old packing glands and stuffing boxes
   a. Packing tools *
   b. Packing bills
   c. Gland box clearance
   d. Packing stuff

432. Before drilling a hole in a pipe of metal it should be
   a. Center punched *
   b. Marked with chalk
   c. Protracted
   d. Scribed

433. When measuring a drill for size, measure across the
   a. Shank
   b. Flute
   c. Lip
   d. Margin *

434. The size of drill is stamped on _____
   a. Flute
   b. Shank *
   c. Margin
   d. Point

435. The tool used for cleaning files is called
   a. File cleaner
   b. File card *
   c. File oilstone
   d. Scraper

436. Back rake angle for high speed steel single point cutting tool to machine free cutting brass is
   a. 0 deg *
   b. 5 deg
   c. 30 deg
   d. 10 deg

437. A reamer is used to correct the
   a. Size and roundness of a drilled hole *
   b. Size and position of drilled hole
   c. Finish and position of drilled hole
   d. Depth of drilled hole

438. Which of the following is not a common term relating to the classification of file?
   a. Tunking
   b. Snug
   c. Bound *
   d. Medium force fit

439. An oversized hole is produced by a drill if
   a. Lips of a drill are of unequal length *
   b. Feed is too high
   c. Insufficient coolant is used
   d. None of the above

440. The studs are used as coolant in general machine shop consists of
   a. Solution of detergent and water
   b. An emulsion of oil and water *
   c. Chemical solution
   d. A straight mineral oil

441.Two major factors which determined the rpm of milling cutter are the material being cut and _____
   a. Number of teeth in cutter
   b. Time allowed to finish the job*
   c. Diameter less grinder
   d. Depth

442. Electron beam machining process is quite suitable for material having
   a. High melting point and high thermal conductivity
   b. High melting point and low thermal conductivity *
   c. Low melting point
   d. Low thermal conductivity

443. Grinding is what type of operation?
   a. Metal finish operation *
   b. Metal fusing operation
   c. Metal powdering operation
   d. None of the above

444. Grinding is done wherever
   a. Other machining operations
   b. A large amount of materials to be removed *
   c. High accuracy is required
   d. Any of the above

445. Laser beam machining process is used to machine _____.
   a. Thicker material
   b. Thinner material *
   c. Heavy materials
   d. Light materials

446. Twist drills are usually considered suitable for machining holes having a length less than
   a. Two times its diameter
   b. Five times its diameter*
   c. Four times its diameter
   d. Eight times its diameter

447. A hard grade grinding wheel is suitable for
   a. Hard materials
   b. Soft material *
   c. Semi hard materials
   d. Heavy load materials

448. In quick return mechanism of shaping machine , the ram stroke length is proportional to
   a. Crank length *
   b. Cam length

c. Ram length
d. None of the above

449. The usual ratio of forward and return stroke I quick return mechanism of shaping machine is
a. 2:1
b. 4:3
c. 3:2 *
d. 5:2

450. The type and number of bearing to be used for spindles of machine depends on
a. Type of spindle
b. Type of cutter
c. Load on bearing *
d. None of the above

451. The square head of combination set is used for marking or checking the engine is
a. 90 deg only
b. 45 degree
c. 90 and 45 degree *
d. Any angle between 0 -180

452. For general work, the cutting angle of a cold fist chisel is ground at angle of
a. 50 deg
b. 60 deg *
c. 80 deg
d. 70 deg

453. Angle plate is made of
a. Closed grain cast iron *
b. Cast steel
c. High speed steel
d. Tool steel

454. A new hack saw blade should be used to old cut because
a. The blade is very costly
b. The space is not sufficient to play the new blade in the old cut *
c. The blade have very sharp teeth
d. None of the above

455. Which part of the file is not hardened
a. Tang *
b. Heel
c. Point
d. Handle

456. Generally spiral fluted reamer has spirals of
a. Right hand
b. Left hand *
c. Straight
d. Any of the above

457. In which screw thread the side = width of space -0.5p
a. Knuckle
b. Buttress
c. Square *
d. Circle

458. A stud is which
a. Have threads on one end
b. Require a nut
c. Inserted in a plane hole
d. None of the above *

459. "18-8" stainless steel means
a. 18% tungsten and 8% chromium
b. 18% nickel and 8% chromium *
c. 18% chromium and 8% nickel
d. 18% cobalt and 8 % cadmium

460. Which is the lightest metal
a. Lead
b. G.I. steel
c. Aluminum *
d. Cast iron

461. Hardened steel parts have
a. Fine grains *
b. Coarse grains
c. No grains
d. Medium grains

462. Concentricity of an outside diameter can be checked by
a. Vernier caliper
b. Outside micrometer
c. Dial test indicator *
d. Tube micrometer

463. Which gauge is used to check internal threads
a. Ring gauge
b. Plug gauge
c. Thread plug gauge *
d. None of the above

464. In case of limit of plug gauge, which size will not enter into the hole
a. "GO" size
b. "Not GO" size*
c. "A and B" both
d. None of the above

465. Limit gauge is made to the _____ sizes of the work to be measured

a. Actual and nominal
b. Nominal and upper limit
c. Maximum and minimum *
d. Nominal and upper limit

466. "GO" size limits is:
a. Upper limit of shaft
b. Lower limit of hole
c. Both A and B*
d. Neither A or B

467. Lapping is done
a. To finish the job in fine degree
b. To control the size
c. To get high quality surface
d. All of the above *

468. In which method a bore is finished to a very closed tolerance
a. Lapping
b. Rapping
c. Honing *
d. Grinding

469. Jig bushing are generally made of
a. Tool steel *
b. Carbon steel
c. Cast iron
d. High speed steel

470. Fixture clamps are generally made of
a. Tool steel
b. Case hardened mild steel *
c. High speed steel
d. Carbon steel

471. When an external gear is meshed with the internal gear , the gears will rotate in
a. Same direction *
b. Opposite direction
c. Will not rotate
d. None of the above

472. Usual ratio of soluble oil and water used in coolant is
a. 20:1
b. 1:20 *
c. 10:1
d. 1:10

473. in internal cylindrical grinding , the grinding wheel and work rotate in
a. Same direction
b. Opposite direction *
c. Neither A or B
d. Both A and B

474. For grinding materials having low tensile strength which abrasive is used
a. Silicon carbide*
b. Aluminum oxide
c. Emery
d. Corrunduin

475. Which center is used for supporting open end of pipes, shells, etc., while turning or thread cutting
a. Ball center
b. Pipe center *
c. Half center
d. Dead center

476. Included angle of dead center is
a. 60 deg*
b. 45 deg
c. 65 deg
d. 90 deg

477. Angle of B.A screw thread is
a. 90
b. 47.5 *
c. 60
d. 45

478. Main alloying element of HSS is
a. Chromium
b. Cast iron
c. Tungsten *
d. Carbon steel

479. For accurate measurement of bores, the best instrument is
a. Vernier caliper
b. Plug gage
c. Dial indicator
d. Inside micrometer *

480. In hydraulic driven shaper, the metal is removed at
a. Lower speed
b. Higher speed *
c. Average speed
d. None of the above

481. In shaper machine, the cutting speed (metric) is expressed as
a. m/s
b. m/min *
c. m/ hr
d. Any of the above

482. Amount of automatic load in shaper is increased by taking the crank pin
a. At center of crank disc
b. Away from the center *
c. Towards the center
d. At the center

483. In a shaper, the feed (metric) is usually expressed as
a. Mm/stoke *
b. m/stoke
c. Mm/revolution
d. None of the above

484. For cutting gear teeth in shaper , the _____ tool is used.
a. “V” block
b. Form tool *
c. Gooseneck
d. Round nose

485. The standard ratio of cutting tool in return stroke in shape is
a. 3:1
b. 1:3
c. 3:2 *
d. 4:2

486. The feed in the shaper takes place at
a. The beginning of return stroke
b. The middle of return stoke
c. The end of return stroke *
d. At the cutting stroke

487. Which of the following quick return mechanism is most widely used in most slotters
a. Slotter link and gear mechanism
b. Whitworth mechanism *
c. Slotter disc mechanism
d. Hydraulic mechanism

488. If the clearance angle is more than the required on slotter tool, then support cutting tool will be
a. Great
b. Less *
c. Medium
d. None of the above

489. The clamping block is used to support the end of the strap is made of

a. Wood *
b. Steel
c. HSS
d. Cast iron

490. Divide table planer has:
a. One table
b. Two tables *
c. One housing
d. Two housing

491. A planer which has a cutting tool in or both stroke in is
a. Open side planer
b. Double housing planer
c. Universal planer *
d. Pit planer

492 The straddle milling is done by means of two
a. Side milling cutters *
b. Plain milling cutters
c. Face milling cutters
d. Form cutters

493. The formula to find out the number of turn of the crank for simple indexing is:
a) T = 20/N
b) T = N/40
c) T =40/N *
d) T = N/20

494.In standard dividing head the ratio between worm wheel and the worm
a. 40:1*
b. 20:1
c. 1:40
d. 10:1