

**BRANCH: AUTOMOBILE (4<sup>TH</sup> SEM)**

**SUB: MANUFACTURING TECHNOLOGY**

**QUESTION TYPE: MCQ (CHAPETR WISE)**

**CUTTING TOOL / TOOL MATERIAL**

1. The various cutting tool materials used are:

- a) high speed steels
- b) cast cobalt alloys
- c) carbides
- d) all of the mentioned

**Answer: d**

2. High speed steels are suitable for making

- a) high positive rake angle tools
- b) interrupted cuts
- c) machine tools with low stiffness that are subject to vibration
- d) all of the mentioned

**Answer: d**

3. \_\_\_\_\_ improves toughness, wear resistance, and high temperature strength.

- a) Chromium
- b) vanadium
- c) Tungsten
- d) None of the mentioned

**Answer: a**

4. \_\_\_\_\_ contains nickel molybdenum matrix.

- a) Chromium
- b) Titanium carbide
- c) Tungsten
- d) None of the mentioned

**Answer: b**

5. Coating materials used are

- a) titanium nitride
- b) titanium carbide
- c) titanium carbonitride
- d) all of the mentioned

**Answer: d**

6. Characteristics of coated cutting tools are:

- a) high hardness
- b) chemical stability
- c) low thermal conductivity
- d) all of the mentioned

**Answer: d**

7. Ceramic tools are fixed to a tool body by \_\_\_\_\_

- a) soldering
- b) brazing
- c) welding
- d) clamping

**Answer: b**

8. The carbide tools operating at very low cutting speeds

- a) reduces tool life
- b) increases tool life
- c) have no effect on tool life
- d) spoils the work piece

**Answer: a**

9. High speed steel tools retain their hardness upto a temperature of

- a) 250°
- b) 350°
- c) 500°
- d) 900°

**Answer: d**

10. The trade name of a non ferrous cast alloy composed of cobalt, chromium and tungsten

is called

- a) ceramic
- b) stellite
- c) diamond
- d) cemented carbide

**Answer: b**

11. If a percentage of cobalt in Tungsten carbide tool increases, then toughness of tool will

- a) Increase
- b) Decrease
- c) Remains Constant
- d) First increase then decrease

**Answer: a**

12. Which of the following tools is most suitable for very hard and brittle material?

- a) HSS
- b) Cast-cobalt alloy
- c) Carbides
- d) None of the mentioned

**Answer: c**

13. High speed steels are most suitable for

- a) High Positive rake angle tools
- b) High Negative rake angle tools
- c) Zero Rake angle tools
- d) None of the mentioned

**Answer: a**

14. Which of the following tool material will offer lower friction and higher resistance to cracks and wear?

- a) HSS
- b) TiC
- c) WC
- d) TiCN

**Answer: d**

15. Which of the following tool material will offer lower friction and higher resistance to cracks and wear?

- a) HSS
- b) TiC
- c) Cast cobalt alloys
- d) Coated tools

**Answer: d**

16. Which of the following material can be used for coating on tools?

- a) HSS
- b) TiCN
- c) WC
- d) cBN

**Answer: b**

17. Cutting tool should maintain its hardness.

- a) True
- b) False

**Answer: a**

18. Thermal conductivity of cutting tool must be

- a) High
- b) Low
- c) Very low
- d) None of the mentioned

**Answer: a**

19. Hot hardness of cutting of cutting tool should be

- a) Large
- b) Small
- c) Very small
- d) None of the mentioned

**Answer: a**

20. Wearing resistance of cutting tool must be

- a) High
- b) Low
- c) Very low
- d) None of the mentioned

**Answer: a**

21. What is the percentage of carbon tungsten in T-series of high speed steel?

- a) 20
- b) 18
- c) 16
- d) 14

**Answer: b**

22. What is the percentage of carbon chromium in T-series of high speed steel?

- a) 0
- b) 8
- c) 6
- d) 4

**Answer: d**

23. What is the percentage of vanadium in T-series of high speed steel?

- a) 2
- b) 1
- c) 6
- d) 4

**Answer: b**

24. What is the percentage of Molybdenum in M-series of high speed steel?

- a) 12
- b) 21
- c) 16
- d) 24

**Answer: b**

25. M-series high speed steel has more efficiency than T-series high speed steel.

- a) True
- b) False

**Answer: a**

26. Presence of Chromium in T-series steel imparts

- a) Hardness
- b) Corrosion resistance
- c) Abrasion resistance
- d) Toughness

**Answer: b**

27. Which of the following element is responsible for providing red hot hardness property to T-series high speed steel?

- a) W
- b) Cr
- c) V
- d) Mo

**Answer: a**

28. If percentage of cobalt in Tungsten carbide tool increases, then the strength of the tool will

- a) Increase
- b) Decrease
- c) Remains Constant
- d) First increase then decrease

**Answer: b**

29. If percentage of cobalt in Tungsten carbide tool increases, then hardness of tool will

- a) Increase
- b) Decrease
- c) Remains Constant
- d) First increase then decrease

**Answer: b**

- a) Increase
- b) Decrease
- c) Remains Constant
- d) First increase then decrease

**Answer: b**

30. In machining cast iron, no cutting fluid is required.

- a) True
- b) False

**Answer: a**

31. The cutting fluid mostly used for machining alloy steels is :

- a) water
- b) soluble oil
- c) dry
- d) sulphurised mineral oil

**Answer: d**

32. Cutting fluids are used to:

- a) cool the tool
- b) improve surface finish
- c) cool the workpiece
- d) all of the mentioned

**Answer: d**

33. The cutting fluid mostly used for machining steel is:

- a) water
- b) soluble oil
- c) dry
- d) heavy oils

**Answer: b**

34. Functions of cutting fluids are

- a) to cool the cutting tool and the workpiece
- b) to lubricate the chip, tool and workpiece

- c) to help carry away the chips
- d) all of the mentioned

**Answer: d**

35. \_\_\_\_\_ form mixtures ranging from emulsions to solutions.

- a) Water miscible fluids
- b) Neat oils
- c) Synthetics
- d) None of the mentioned

**Answer: a**

36. Advantages of chemical fluids are

- a) a very light residual film that is easy to remove
- b) heat dissipation is rapid
- c) good detergent properties
- d) all of the mentioned

**Answer: d**

37. The methods of application of cutting fluids are

- a) flooding
- b) jet application
- c) mist application
- d) all of the mentioned

**Answer: d**

38. In \_\_\_\_\_ a high volume flow of the cutting fluid is generally applied on the back of the chip.

- a) flooding
- b) jet application
- c) mist application
- d) all of the mentioned

**Answer: a**

39. In \_\_\_\_\_ the cutting fluid, which may be either a liquid or a gas is applied in the form



of a fine jet under pressure.

- a) flooding
- b) jet application
- c) mist application
- d) all of the mentioned

**Answer: b**

40. \_\_\_\_\_ controls both direction of chip flow and the strength of the tool tip.

- a) Side rake angle
- b) Relief angle
- c) Rake angle
- d) None of the mentioned

**Answer: c**

41. \_\_\_\_\_ acts downward on the tool tip.

- a) Cutting force
- b) Radial force
- c) Thrust force
- d) None of the mentioned

**Answer: a**

42. \_\_\_\_\_ acts in the longitudinal direction.

- a) Cutting force
- b) Radial force
- c) Thrust force
- d) None of the mentioned

**Answer: c**

43. \_\_\_\_\_ acts in the radial direction.

- a) Cutting force
- b) Radial force
- c) Thrust force
- d) None of the mentioned

**Answer: b**

44. For turning a small taper on a long workpiece, 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: b**

### **LATHE MACHINE**

45. End of the work piece can be supported by using

- a) Headstock
- b) Tailstock
- c) Tool Post
- d) None of the mentioned

**Answer: b**

46. 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**

47. 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**

48. Which of the following arrangement is used in the 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**

49. Which of the following have a live centre?

- a) Tail stock
- b) Headstock
- c) Tool post
- d) None of the mentioned

**Answer: b**

50. Which of the following is also known as Puppet head?

- a) Headstock
- b) Tailstock
- c) Tool Post
- d) None of the mentioned

**Answer: b**

51. 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**

52. 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**

53. 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 split nut

**Answer: d**

54. Which of the following serves as a housing for driving pulley, and back gears?

- a) Headstock
- b) Tailstock
- c) Tool Post
- d) None of the mentioned

**Answer: b**

55. 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**

56. 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**

57. 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**

58. 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**

59. 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**

60. 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**

61. 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**

62. 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**

63. 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**

64. Which of the followings is the correct type of threads used in lead screw having half nut in the lathe which is free to rotate in both directions?

- a) ACME threads
- b) Buttress threads
- c) Whitworth threads
- d) V-threads

**Answer: a**

65. Which of the following is used to produce quality screw threads?

- a) Thread casting
- b) Thread cutting with single point tool
- c) Thread milling and cutting with single point tool
- d) Thread chasing

**Answer: d.**

66. 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**

67. 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**

68. Which of the following is the correct reason for keeping transverse force minimum in turning of slender rod?

- a) To enhance surface finish
- b) To increase productivity
- c) To increase efficiency of cutting
- d) To reduce undesired vibration during turning

**Answer: d**

69. Self centered chuck has \_\_\_ number of jaws.

- a) 10
- b) 1
- c) 2
- d) 3

**Answer: d**

70. 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**

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

- a) Using tailstock offset method
- b) Using taper attachment method
- c) Using form tool

d) Using compound rest method

**Answer: d**

72. 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**

73. 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**

74. 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**

75. 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**

76. 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**

10. Total load is distributed over all teeth when thread cutting is done using thread chaser.

a) True

b) False

**Answer: a**

77. 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**

78. 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**

79. 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**

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

a) Mandrels

b) Dogs

c) Collet

d) Angle plate

**Answer: a**

81. 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**

82. 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**

83. 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**

84. 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**

85. 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**

86. 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**

87. 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**

88. 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**

89. 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**

90. 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**

91. 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**

92. 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**

93. 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**

94. 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**

95. 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**

96. 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 than speed of spindle
- c) Speed of lead screw is equal to speed of spindle
- d) None of the mentioned

**Answer: a**

97. 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**

98. Which of the following have the lowest degree of automation?

- a) Centre lathe
- b) Capstan lathe
- c) Turret lathe
- d) All of the mentioned

**Answer: a**

99. Which of the following requires high labor cost?

- a) Turret lathe
- b) Capstan lathe
- c) Centre lathe
- d) All of the mentioned

**Answer: c**

100. Which of the following offers minimum overhead charge?

- a) Turret lathe
- b) Capstan lathe
- c) Centre lathe
- d) All of the mentioned

**Answer: c**

101. Which of the following lathe is most versatile?

- a) Turret lathe
- b) Capstan lathe
- c) Centre lathe
- d) All of the mentioned

**Answer: c**

102. Turret head in turret lathe is generally mounted on

- a) Slide
- b) Saddle
- c) Ram
- d) None of the mentioned

**Answer: b**

103. Lead screw is present in turret lathe for thread cutting

a) True

b) False

**Answer: b**

104. Lead screw is present in Capstan lathe for thread cutting

a) True

b) False

**Answer: b**

105. 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**

106. Which of the following lathe requires low maintenance?

a) Turret lathe

b) Capstan lathe

c) Centre lathe

d) All of the mentioned

**Answer: c**

### **SHAPER**

107. Cutting of material during shaping operation takes place in

a) Forward stroke

b) Backward stroke

c) Both forward and backward stroke

d) None of the mentioned

**Answer: a**

108. Which of the following part of shaper supports all of the other parts of machines?

- a) Base
- b) Column
- c) Cross rail
- d) Table

**Answer: a**

109. Cutting of material during slotting operation takes place in

- a) Forward stroke
- b) Backward stroke
- c) Both forward and backward stroke
- d) None of the mentioned

**Answer: a**

110. Which of the following act as housing for an operating mechanism in shaper?

- a) Base
- b) Column
- c) Cross rail
- d) Table

**Answer: b**

111. Which of the following part of shaper machine carries table elevating mechanism?

- a) Base
- b) Column
- c) Cross rail
- d) Table

**Answer: c**

112. Which of the following part of shaper machine carries vertical guide ways mechanism?

- a) Base
- b) Column
- c) Cross rail
- d) Table

**Answer: c**



113. Which of the following part of shaper machine hold and supports the work piece?

- a) Base
- b) Column
- c) Cross rail
- d) Table

**Answer: d**

114. Which of the following part of shaper machine carries tool head?

- a) Cross rail
- b) Column
- c) Ram
- d) Table

**Answer: c**

115. Which of the following part of shaper provides straight line motion of tool?

- a) Cross rail
- b) Column
- c) Ram
- d) Table

**Answer: c**

116. Which of the following part of shape is used to hold the tool?

- a) Cross rail
- b) Tool head
- c) Ram
- d) Vice

**Answer: b**

117. Which of the following can be used as job holding device in shaping machine?

- a) Cross rail
- b) Column
- c) Ram
- d) vice

**Answer: d**

118. Which of the following shaper machine cuts in return stroke?

- a) Vertical shaper
- b) Horizontal shaper
- c) Draw cut shaper
- d) Universal shaper

**Answer: c**

119. Slotted link of crank and slotted lever mechanism is also known as

- a) Lever
- b) Rocker
- c) Crank
- d) None of the mentioned

**Answer: b**

120. Slotted link of crank and slotted link mechanism is pivoted to

- a) Fulcrum
- b) Lever
- c) Tool
- d) None of the mentioned

**Answer: a**

121. Time of return stroke is \_\_\_\_\_ the time of forward stroke in crank and slotted link mechanism.

- a) Less than
- b) More than
- c) Equal to
- d) None of the mentioned

**Answer: a**

122. In crank and slotted link mechanism, cutting angle is 220 degrees. What should be the return stroke angle?

- a) 12
- b) 90
- c) 140
- d) 360

**Answer: c**

123. In a crank and slotted lever mechanism, length of fixed link and crank is 250 mm and 100 mm respectively. Inclination of slotted lever with vertical at extreme position in degrees is equal to

- a) 25
- b) 23.6
- c) 28.3
- d) 20

**Answer: b**

124. In a crank and slotted lever mechanism, length of fixed link and crank is 250 mm and 100 mm respectively. Ratio of cutting stroke time to return stroke time will be

- a) 5
- b) 2.6
- c) 1.7
- d) 0

**Answer: c**

125. In a crank and slotted lever mechanism, length of fixed link and crank is 250 mm and 100 mm respectively. Cutting angle in degrees is equal to

- a) 47.2
- b) 12.3
- c) 56
- d) 69.3

**Answer: a**

126. In a crank and slotted lever mechanism, length of fixed link and crank is 250 mm and 100 mm respectively. Return angle in degrees is equal to

- a) 147.2
- b) 112.3
- c) 156
- d) 132.8

**Answer: d**

127. In a crank and slotted lever mechanism, length of fixed link and crank is 250 mm and

100 mm respectively. Length of stroke in mm will be

- a) 447.2
- b) 312.3
- c) 56
- d) 360.3

**Answer: d**

**SLOTTER**

128. Cutting of material during slotting operation takes place in

- a) Forward stroke
- b) Backward stroke
- c) Both forward and backward stroke
- d) None of the mentioned

**Answer: a**

129. Which of the following part of slotting machine supports all of the other parts of machines?

- a) Base
- b) Column
- c) Ram
- d) Table

**Answer: a**

130. Cutting of material during shaping operation takes place in

- a) Forward stroke
- b) Backward stroke
- c) Both forward and backward stroke
- d) None of the mentioned

**Answer: a**

131. Which of the following act as housing for an operating mechanism in slotting machine?

- a) Base
- b) Column

- c) Cross rail
- d) Table

**Answer: b**

132. Which of the following part of slotting machine carries table elevating mechanism?

- a) Base
- b) Column
- c) Ram
- d) Table

**Answer: b.**

133. Which of the following part of slotting machine carries vertical guide ways mechanism?

- a) Base
- b) Column
- c) Cross rail
- d) Table

**Answer: b**

134. Which of the following part of slotting machine hold and supports the work piece?

- a) Base
- b) Column
- c) Cross rail
- d) Table

**Answer: d.**

135. Which of the following part of slotting machine carries tool head?

- a) Cross rail
- b) Column
- c) Ram
- d) Table

**Answer: c**

136. Which of the following part of slotting machine provides straight line motion of tool?

- a) Cross rail

- b) Column
- c) Ram
- d) Table

**Answer: c**

137. Which of the following part of slotting machine is used to hold the tool?

- a) Cross rail
- b) Tool head
- c) Ram
- d) Vice

**Answer: b**

138. Which of the following can be used as job holding device in slotting machine?

- a) Cross rail
- b) Column
- c) Ram
- d) Vice

**Answer: d**

### **MILLING**

139. Which of the following act as load bearing part of milling machine?

- a) Base
- b) Column
- c) Knee
- d) Table

**Answer: a**

140. Knee of milling machine is attached and slides up and down on

- a) Base
- b) Column
- c) Knee
- d) Table

**Answer: a**

141. Motor drive in milling machine is generally attached to

- a) Base
- b) Column
- c) Knee
- d) Table

**Answer: b**

142. 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**

143. Which of the following is capable of sliding up and down in milling machines?

- a) Base
- b) Column
- c) Knee
- d) Table

**Answer: c**

144. 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**

145. Which of the following part of the milling machine is used to support work piece?

- a) Base
- b) Column
- c) Knee
- d) Table

**Answer: d**

146. Table of milling machine is generally made up of

- a) Cast iron
- b) Steel
- c) Aluminum
- d) None of the mentioned

**Answer: a**

147. Which of the following carries clamping bolt T-slots for fixing work piece?

- a) Base
- b) Column
- c) Knee
- d) Table

**Answer: a**

1148. 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**

149. 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**

150. 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**

151. 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**

152. 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**

153. 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**

154. 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**

155. 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**

156. 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**

157. 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**

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

- a) Arbors
- b) Collets
- c) Jigs and fixture
- d) Adaptors

**Answer: c**

159. 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**

160. Which of the following milling operation can be used for machining of flat surface which is the right angle to the axis of cutter?

- a) Slab milling
- b) Face milling
- c) Angular milling
  
- d) Form milling

**Answer: b**

161. 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**

162. 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**

163. 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**

164. Which of the following milling process is used for machining of a 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**

165. 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**

166. 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.**

167. 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**

168. Which of the following cutter can be used for finishing off previously milled slot?

- a) Key way milling cutter
- b) Dovetail milling cutter
- c) Saw milling cutter
- d) Slitting milling cutter

**Answer: b**

169. 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**

170. 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**

171. Distance moved by a 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

172. In a milling operation, feed per tooth is 0.020 mm and the 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**

173. In a milling operation, feed per revolution is 5 mm and the 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**

174. 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**

175. 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**

176. 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**

177. 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**

178. 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**

179. Dividing head is generally used for changing the angular position of work piece relative to milling cutter.

- a) True
- b) False

**Answer: a**

180. 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**

181. 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**

182. Circumference of a work piece is to be divided in 10 equal division using an index plate of 550 slots. Indexing ratio is equal to

- a) 2
- b) 3
- c) 5
- d) 6

**Answer: b**

183. 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**

184. 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**

185. 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**

186. 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**

187. 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**

188. 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**

### **GRINDING**

189. Grinding wheel is specified as "A 46 K 5 B 17". Grain size of a wheel will be

a) Coarse

b) Medium

c) Fine

d) Very Fine

**Answer: b.**

190. Grinding wheel is specified as "C 8 K 5 B 17". Grain size of a wheel will be

a) Coarse

b) Medium

c) Fine

d) Very Fine

**Answer: a**

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

- a) Coarse
- b) Medium
- c) Fine
- d) Very Fine

**Answer: d**

192. 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**

193. 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**

194. 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**

195. 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**

196. 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**

197. 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**

198. Removing dull grains in order to make grinding wheel sharp is known as

- a) Loading
- b) Glazing
- c) Dressing
- d) Trueing

**Answer: c**

199. 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**

2. Which of the following is a correct range for grain number of the grinding wheel for coarse grains?

- a) 220-600
- b) 80-180
- c) 30-60
- d) 10-24

**Answer: d**

200. Which of the following is the correct range for grain number of the grinding wheel for medium grains?

- a) 220-600
- b) 80-180
- c) 30-60
- d) 10-24

**Answer: c**

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

- a) 220-600
- b) 80-180
- c) 30-60
- d) 10-24

**Answer: b**

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

- a) 220-600
- b) 80-180
- c) 30-60
- d) 10-24

**Answer: a**

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

- a) Fine grain
- b) Very fine grain
- c) Coarse grain
- d) None of the mentioned

**Answer: c**

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

- a) Fine grain
- b) Medium grain

- c) Coarse grain
- d) None of the mentioned

**Answer: c**

205. Which of the following symbol's range of alphabet represent soft grain in grinding wheel?

- a) A - H
- b) I - P
- c) Q - T
- d) T - Z

**Answer: a**

206. Which of the following symbol's range of alphabet represent medium hardness grain in grinding wheel?

- a) A - H
- b) I - P
- c) Q - T
- d) T - Z

**Answer: b**

207. Which of the following symbol's range of alphabet represent hard grain in grinding wheel?

- a) D - H
- b) I - P
- c) A - D
- d) Q - Z

**Answer: a**

208. 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**

209. 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**

210. Which of the following represents the correct symbol of vertified bond in a specification of grinding wheel?

- a) V
- b) R
- c) B
- d) S

**Answer: a**

211. Which of the following represents the correct symbol of rubber bond in a specification of grinding wheel?

- a) V
- b) R
- c) B
- d) S

**Answer: b**

212. Which of the following represents the correct symbol of Resin bond in a specification of grinding wheel?

- a) V
- b) R
- c) B
- d) S

**Answer: b**

213. Resin bond is also known

- a) Vertified bond
- b) Rubber bond

- c) Silicate bond
- d) Bakelite bond

**Answer: d**

214. Which of the following represents the correct symbol of Silicate bond in a specification of grinding wheel?

- a) V
- b) R
- c) B
- d) S

**Answer: d**

215. Which of the following represents the correct symbol of Shellac bond in a specification of grinding wheel?

- a) V
- b) P
- c) B
- d) S

**Answer: b**

216. Which of the following represents the correct symbol of epoxy bond in a specification of grinding wheel?

- a) V
- b) R
- c) P
- d) S

**Answer: b**

217. 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**

## **SURFACE FINISHING OPERATIONS**

218. 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**

219. 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**

220. 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**

221. 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**

222. 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**

223. Material removal rate of grinding process in comparison to material removal rate in facing on a lathe is

- a) Small
- b) Large
- c) Same
- d) Can't say about material removal rate

**Answer: a**

224. 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 the rake angle

**Answer: a**

225. 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 the rake angle

**Answer: a**

226. 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 the rake angle

**Answer: c**

227. Grinding ratio generally lies between

- a) 0.5-10
- b) 100-200
- c) 1000-200
- d) 30-40

**Answer: a**

228. Which of the following is a surface finishing operation?

- a) Drilling
- b) Honing
- c) Milling
- d) Turning

**Answer: b**

229. Which of the following is a surface finishing operation?

- a) Drilling
- b) Lapping
- c) Milling
- d) Turning

**Answer: b**

230. Which of the following process has the lowest cutting speed?

- a) Drilling
- b) Honing
- c) Milling
- d) Turning

**Answer: b**

231. Which of the following process has the lowest cutting speed?

- a) Slotting
- b) Lapping
- c) Milling
- d) Reaming

**Answer: b**

232. Which of the following process have the lowest metal removal rate?

- a) Drilling
- b) Reaming
- c) Milling
- d) Lapping

**Answer: b**

233. Which of the following process have the lowest metal removal rate?

- a) Drilling
- b) Reaming
- c) Milling
- d) Honing

**Answer: d**

234. Which of the following is the 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**

235. 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**

236. 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**

237. 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**

### **INTERNAL MACHINING OPERATION**

238. 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**

239. 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**

240. 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**

241. Process of enlarging only a small part of hole is also known as

- a) Drilling
- b) Reaming
- c) Boring
- d) Counter boring

**Answer: d**

242. Operation of enlarging the end of the hole to give conical shape at end is known as

- a) Drilling
- b) Reaming
- c) Boring
- d) Counter sinking

**Answer: d**

243. Operation used to form internal threads is known as

- a) Drilling
- b) Reaming
- c) Boring
- d) Tapping

**Answer: d**

244. If 'D' is hole diameter, then general value for a compulsory approach for through hole can be taken as

- a)  $0.3 \cdot D$
- b)  $0.1 \cdot D$
- c)  $0.5 \cdot D$
- d)  $0.8 \cdot D$

**Answer: c**

245. If 'D' is hole diameter, then general value for a compulsory approach for blind hole can be taken as

- a)  $0.3 \cdot D$
- b)  $0.1 \cdot D$
- c)  $0.5 \cdot D$
- d)  $0.8 \cdot D$

**Answer: a**

246. 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**

247. 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**