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Subject Name & Code : Metrology & Instrumentation (PCME603)

Exam Name : Q1

1. Units of standard tolerance unit, i [C]

A) MM B) Inches C) Microns D) grade of tolerance

2. The prescribed difference between the two mating parts [D]

A) Deviation B) Tolerance C) Limit D) Allowance

3. In shaft basis system, fit is obtained by [C]

A) Varying shaft size B) Shaft size at MMC C) Varying hole size D) Choosing basic shaft

4. Components selected at random for assembly, results in [B]

A) Trail & error assembly B) Interchangeable assembly C) Selective assembly D) None of the above

5. MMC means [A]

A) Maximum size of shaft & minimum size of hole B) Maximum size of shaft & hole C) Minimum size of shaft & Maximum size of hole D) minimum size of hole & shaft

6. The magnitude of ‘D’ in standard tolerance unit (i), corresponds to [D]

A) Exact value of ‘D’ in mm B) Average size of extreme values in the basic step C) Exact value of ‘D’ in microns D) Geometric mean of the limiting values of ‘D’

7. Basic shaft is one [A]

A) Whose upper deviation is zero B) Whose lower deviation is zero C) Whose lower & upper deviations are zero D) Does not exist

8. The permissible variation in dimension of a part [C]

A) Deviation B) Limit C) Tolerance D) Allowance

9. If the largest permissible shaft diameter is smaller than the diameter of the smallest hole results in [B]

A) Transition Fit B) Clearance Fit C) Interference Fit D) Either clearance or Interference Fit

10. The difference between the minimum size of shaft and maximum size of hole [B]

A) Zero clearance B) Maximum clearance C) Minimum clearance D) Does not exist

11. The algebriac difference between the upper limit of size and the corresponding basic size [D]

A) Fundamental deviation B) Deviation C) Lower deviation D) Upper deviation

12. If the minimum permissible shaft diameter is larger than the maximum allowable diameter of the hole results in [A]

A) Interference Fit B) Transition Fit C) Clearance Fit D) Either clearance or Interference Fit

13. The algebric difference between the actual size and the corresponding basic size is [B]

A) Fundamental size B) Deviation C) Fundamental deviation D) Lower deviation

14. Bilateral system is used in [C]

A) Interchangeable production B) Job order production C) Mass production D) Both Job order production & Mass production

15. Why tolerances are given to the parts ? [B]

A) To reduce weight of the component B) Because it’s impossible to make perfect settings C) To reduce cost of the assembly D) To reduce amount of material used

16. Type of tolerance provided in drilling mostly? [A]

A) Unilateral B) Bilateral C) Trilateral D) Compound

17. Bilateral tolerance means [D]

A) Tolerance is in 1 direction only B) May or may not be in one direction C) Tolerance provided all over the component body D) Total tolerance is in both the directions

18. Which of the following is incorrect about tolerances [A]

A) Too loose tolerance results in less cost B) Tolerance is a compromise between accuracy and ability C) Too tight tolerance may result in excessive cost D) Fit between mating components is decided by functional requirements

19. Which of the following option is true for given statements Statement 1: Bilateral tolerances are used in mass production techniques Statement 2: The basic size should be equal to upper and lower limits [C]

A) T,T B) F,F C) T,F D) F,T

20. What is mean clearance [C]

A) Maximum size of hole minus maximum size of shaft B) Minimum size of hole minus minimum size of shaft C) Mean size of hole minus mean size of shaft D) Average of both size of shaft and hole

21. If a clearance fit is present between shaft and hole, what is the tolerance on shaft or hole for a complete interchangeable approach [A]

A) ½ of maximum clearance – ½ of minimum clearance B) ¼ of maximum clearance – ¼ of minimum clearance C) Maximum clearance – minimum clearance D) ¾ of maximum clearance – ¾ of minimum clearance

22. Which of the following option is incorrect about interchangeability [D]

A) Increase output B) Increase cost of production C) Useful in mass production D) Assembly time increases

23. What are the main considerations for deciding the limits of a particular part [D]

A) Functional requirement B) Economics and interchangeability C) Interchangeability and functional requirement D) Interchangeability, functional requirement and economics

24. What is a limit system [A]

A) Series of tolerances B) Series of fits C) Series of clearances D) Series of limits

25. Which of the following is correct for selective assembly [D]

A) Not suitable for industrial purposes B) Cost increases due to automatic gauging C) Wastage is high due to selective selection D) This method is followed in ball and roller bearing units

26. What does ‘50’ represents in 50H8/g7 [A]

A) Basic size B) Actual size C) Maximum limit of size D) Minimum limit of size

27. Which of the following is incorrect regarding terminology [B]

A) Grades of tolerances decides manufacture’s accuracy B) For any basic size there are 20 different shafts C) Line of zero deviation is known as zero line D) Tolerance has no sign

28. What is the condition for a positive upper deviation [A]

A) Maximum limit of size > basic size B) Maximum limit of size is < basic size C) Minimum limit of size > basic size D) Minimum limit of size < basic size

29. What is the actual deviation? [B]

A) Algebraic sum between actual size and corresponding basic size B) Algebraic difference between actual and corresponding basic size C) Average of actual and basic size D) Algebraic difference between upper and lower deviation

30. Connecting rod bolt results in [A]

A) Close running fit B) Light press fit C) Easy running fit D) Shrink fit

31. What does ES represent in terminology as per IS: 919? [D]

A) Lower deviation of hole B) Upper deviation of shaft C) Lower deviation of shaft D) Upper deviation of hole

32. What is 'IT01' [C]

A) Basic size of hole B) Basic size of shaft C) Tolerance grade D) Standard tolerance factor

33. For tolerance grades 5 to 16, what is the formula for standard tolerance factor (D = mean diameter in mm) [B]

A) 10*D B) 0.45 (D)1/3 + 0.001D C) 20*D D) 0.45 (D)3 + 0.001 D

34. What is the hole size which is covered by IT05 [A]

A) 500 mm B) 600 mm C) 700 mm D) 800 mm

35. Which of the following is not true for hole and shaft basis systems [D]

A) Hole basis system is generally preferred over shaft basis system B) Shaft basis system can be used when products are made from bright drawn bars C) Choice of the system depends upon nature of the product D) In hole basis system, allowances are applied to the hole

36. Which of the following grade of a hole is mostly used for non-circular fits [D]

A) H5 B) H6 C) H7 D) H8

37. What is the range of shafts which produce transition fit [D]

A) Shaft 'a' to 'h' B) Shaft 'e' to 'n' C) Shaft 'd' to 'h' D) Shaft 'j' to 'n'

38. Which grades are available in shaft 'j' assembly [D]

A) 1 to 5 B) 2 to 6 C) 3 to 7 D) 5 to 11

39. Which of the following option is incorrect for clearance fits [B]

A) Shaft 'a' gives a large clearance B) Shaft 'n' is used for clearance fits C) Shaft 'd' can be used for loose pulleys D) Shaft 'g' is expensive to manufacture

40. Which of the following grade is never used for fits [B]

A) H10 B) H11 C) H8 D) H9

41. Which of the option is correct about the preference of shaft and holes in machine tool industries [C]

A) 'A11' is of first preference in shafts B) 'B9' is of first preference in holes C) 'c2' is of first preference in shafts D) 'b11' is of second preference in holes

42. Which of the following option is correct for given statements regarding the selection of fits? [D]
Statement 1: Shaft 'h' is an interference fit and used only for running parts.
Statement 2: Shaft 'k' is the true transition fit.

A) T, F B) F, F C) T, T D) F, T

43. Cam shaft in bearing results in [C]

A) Close running fit B) Light press fit C) Easy running fit D) Shrink fit

44. Which of the following gives interference fit [B]

A) Shaft 'n' B) Shaft 'p' C) Shaft 'm' D) Shaft 'g'

45. Which of the following option is not correct for 'full interchangeability'? [B]

A) This type of interchangeability is not feasible sometimes B) Requires machine which can maintain low process capability C) Machines with very high accuracy are necessary D) For interchangeable production, this type of interchangeability is not must

46. Pick up the wrong statement [C]

A) Addition of slip gauges is possible B) Subtraction of angle gauges is possible C) Subtraction of slip gauges is possible D) Addition of angle gauges is possible

47. IC engine exhast valve in Guide results in [B]

A) Close running fit B) Loose running fit C) Easy running fit D) Shrink fit

48. Accuracy is [B]

A) The repeatability of measuring process B) Agreement of result of a measurement with the true value of the measured quantity C) The ability of measuring device to detect small differences in a quantity being measured D) Error of judgement in reading an observation

49. In a hole basis system, the lower deviation for the hole "H" is [A]

A) 0 mm B) 0.1 mm C) 1 mm D) 0.01mm

50. In order to have an interference fit, it is essential that the lower limit of the shaft should be [A]

A) Greater than upper limit of the hole B) lesser than upper limit of the hole C) Greater than lower limit of the hole D) Lesser than lower limit of the hole

51. Example for transition fit [C]

A) Running fit B) Expansion fit C) Wringing fit D) Shrinkage fit

52. Split Journal bearing results in [A]

A) Medium press fit B) Light press fit C) Easy running fit D) Shrink fit

53. Commutator shell on shaft [B]

A) Close running fit B) Light press fit C) Easy running fit D) Shrink fit

54. Advantage of Interchangeability [C]

A) Increased O/P B) Reduced production cost C) Increased O/P & Reduced production cost D) Decreased O/P

55. es stands for [D]

A) Lower limit of hole B) Lower limit of shaft C) Upper limit of hole D) Upper limit of shaft

56. Idler Gear on spindle results in [A]

A) Loose running fit B) Light press fit C) Easy running fit D) Shrink fit

57. Drilled holes and honed holes could be designated by following grades respectively [D]

A) H5, H11 B) H6, H10 C) H8, H6 D) H10, P5

58. Which of the following is correct for selective assembly? [D]

A) Not suitable for industrial purposes B) Cost increases due to automatic gauging C) Wastage is high due to selective selection D) This method is followed in ball and roller bearing units

59. Locomotive wheel on axle results in [D]

A) Close running fit B) Light press fit C) Easy running fit D) Shrink fit

60. ES stands for [C]

A) Lower limit of hole B) Lower limit of shaft C) Upper limit of hole D) Upper limit of shaft

61. Cylinder liner in block results in [A]

A) Heavy drive fit B) Light press fit C) Easy running fit D) Shrink fit

62. Which of the following is the correct way of designating fit [C]

A) H8/g7 B) g7/H8 C) 50 H8/g7 D) H8/g7 - 50

63. Allowance is usually referred to [A]

A) Minimum clearance between hole & shaft B) Maximum clearance between hole & shaft C) A difference of hole and shaft D) Difference between Maximum and minimum size of hole

64. Clutch member keyed to shaft results in [C]

A) Close running fit B) Light press fit C) Press fit D) Shrink fit

65. Which shaft is used in valve shaftings [A]

A) Shaft ‘s’ B) Shaft ‘f’ C) Shaft ‘b’ D) Shaft ‘t’

66. Expressing a dimension as 25 ± 0.005 mm is the case of [D]

A) Unilateral tolerance B) Bilateral tolerance C) Limiting dimension D) Bilateral tolerance with equal variation

67. One micron is equal to [C]

A) 0.0001 mm B) 0.1 mm C) 0.001 mm D) 0.01 mm

68. In connection with limits, LML stands for [A]

A) Least metal limit B) Lean metal limit C) Light metal limit D) Loose metal limit

69. ei stands for [B]

A) Lower limit of hole B) Lower limit of shaft C) Upper limit of hole D) Upper limit of shaft

70. Expressing a dimension as 23.6 / 23.4 is the case of [C]

A) Unilateral tolerance B) Bilateral tolerance C) Limiting dimension D) Bilateral tolerance with equal variation

71. Basic shaft and basic hole are those whose upper deviation and lower deviation respectively are [C]

A) Positive, Negative B) Negative, Positive C) Zero, Zero D) Minimum, Maximum

72. In limits and fits system, basic shaft system is one whose [B]

A) Lower deviation is zero B) Upper deviation is zero C) Minimum clearance is zero D) Maximum clearance is zero

73. IS : 919 on limits and fits specifies following numbers of grades of fundamental tolerances, and fundamental deviations respectively [D]

A) 25, 18 B) 25, 16 C) 18, 22 D) 18, 25

74. Precision is [A]

A) The repeatability of measuring process B) Agreement of result of a measurement with the true value of the measured quantity C) The ability of measuring device to detect small differences in a quantity being measured D) Error of judgement in reading an observation

75. Basic shaft & basic hole is denoted by [B]

A) Capital letters & Small letters B) Small letters & Capital letters C) Both capital letters D) Both small letters

76. EI stands for [A]

A) Lower limit of hole B) Lower limit of shaft C) Upper limit of hole D) Upper limit of shaft

77. Valve mechanism link pin results in [D]

A) Close running fit B) Light press fit C) Easy running fit D) location sliding fit

78. Pickup the wrong statement [D]

A) Accuracy of an instrument is closeness to the true dimension
B) Precision represents the degree of repititiveness
C) Sensitivity refers to minimum change in value that the instrument can readily indicate
D) As the sensitivity of an instrument increases, its range of measurement also increases

79. Hole basis system is most commonly used [B]

A) It is simple to understand
B) It is more convenient to make correct holes
C) It is simple to express
D) It is more simple to design

80. Pick the wrong expression [D]

A) ei = es - IT B) es - ei = IT C) es = ei + IT D) ei - es = IT

81. To measure a given angle, sine bar requires [C]

A) Angle slips B) bevel protractor C) Slip gauges D) Spirit level

82. Acute angle attachment is available in [B]

A) Taper plug gauge B) Bevel protractor C) Sine bar D) Angle gauges

83. For measuring angles, sine bar is not preferred to use [D]

A) More than 90° B) More than 60° C) Less than 45° D) More than 45°

84. What is the range of bevel protractor? [C]

A) 0-90° B) 0-180° C) 0-360° D) 90-270°

85. V – blocks are mainly used to support [B]

A) Triangular work B) Cylindrical work C) Conical work D) Rectangular work

86. What is the least count of vernier bevel protractor? [C]

A) 10’ B) 5’’ C) 5’ D) 10’’

87. Which of the following is not a angle measuring device [A]

A) Angle plate B) Bevel protractor C) Sine bar D) Angle gauge

88. Wear allowance is provided on [A]

A) Go gauge B) NOGo gauge C) Adjustable snap gauge D) Position gauge

89. When length is expressed as the distance between two flat parallel faces, it is known as [B]

A) End or line standard B) End standard C) Both End and line standard D) line standard

90. For measurement of close tolerances in precision engineering [D]

A) Both End and line standards are used B) Wave standards are used C) Line standards are used D) End standards are used

91. Universally accepted end standard of length [C]

A) Vernier calliper B) End bars C) Slip gauges D) Ends of micrometer anvils

92. Slip gauges are made of [A]

A) High grade steel B) Carbon steel C) Mild steel D) Stainless steel

93. Which of the following is not a name of slip gauges [D]

A) Gauge Blocks B) Johannsen Gauges C) Gage Blocks D) Linear Gauges

94. Which of the following is not correct about protector blocks [A]

A) Protector blocks have letter B on its measuring face B) They are provided with high grade sets of gauge blocks C) These are made from Tungsten carbide D) These are 2 mm block

95. Which of the following is not the most important feature of slip gauge [D]

A) Length between measuring surface B) Flatness C) Surface conditions of measuring surface D) Adhereness efficiency

96. A spirit level is required to have 2 mm of bubble movement of 2" inclination. The radius of the tube should be around [A]

A) 200 m B) 20 m C) 2 m D) 120 m

97. Which of the following is not a common basic form of slip gauge [D]

A) Rectangular B) Square with centre hole C) Square without centre hole D) Parallelogram

98. Pick up correct statement about slip gauges error? Statement 1: Squareness Error is the amount by which side face deviates from a right angled position with respect to each measuring face. Statement 2: Wringing occurs due to molecular adhesion. [C]

A) Only statement 1 is true B) Only statement 2 is true C) Both the statements are true D) Both the statements are not true

99. Which of the following is not end standard [A]

A) Precision scale B) Length bars C) Slip gauges D) Gap gauges

100. How many grades or classes of slip gauges are present [B]

A) 3 B) 5 C) 6 D) 4

101. Which one of the following is not a recommended set gauge of a metric unit [C]

A) M 112 B) M 105 C) M 95 D) M 33

102. In absence of parallelism, what is the size of slip gauge [B]

A) Distance between two measuring faces B) Distance between the centre of the exposed face to the surface of a body C) Distance between the top edge of the exposed surface and same edge of a body D) Distance between contacting part of gauge and body

103. What is the approximate size of slip gauges [A]

A) 30 mm long and 10 mm wide B) 45 mm long and 15 mm wide C) 20 mm long and 5 mm wide D) 25 mm long and 10 mm wide

104. Why ceramic slip gauges is better than steel slip gauges [C]

A) Due to its wringing capability B) Due to its Resistance to impact C) Due to its Resistance to wear D) Due to its thermal Expansion

105. Which of the option is correct for given statements about slip gauge form? [C]
Statement 1: Grade 2 is the workshop grade.
Statement 2: Square slip gauge is more expensive and adhere better to each other when wrung

A) Only statement 1 is true B) Only statement 2 is true C) Both the statements are true D) Both the statements are not true

106. What is ‘Go limit’ [C]

A) Lower limit of shaft and upper limit of hole B) Lower limit of shaft and hole C) Upper limit of shaft and lower limit of a hole D) Upper limit of shaft and hole

107. Which of the following is not correct about plain gauges? [C]

A) Used to check threaded portions B) There is no scale in plain gauges C) Indicates actual value of the inspected dimension D) Can be used to check dimension of manufactured part

108. Which of the following option correctly define a solid gauge? [B]

A) Gauging portion and handle separately manufactured B) Gauge integral with the handle C) Gauges with suitable locking devices D) Gauges that are not used for cylindrical holes

109. Which of the following is not true for fixed gauges? [C]

A) Independent of availability of power supply B) These are not expensive C) Chances of human errors are more D) Provide uniform reference standard

110. Up to which diameter, bar type plug gauges are used? [D]

A) 20 mm B) 40 mm C) 75 mm D) Morethan 75 mm

111. What is the suitable material for small plain plug gauges? [C]

A) Any type of steel B) Light metal alloys C) Non-metallic handles may be used D) Aluminum

112. What is the colour of the band at ‘no go’ side of plain gauges? [A]

A) Red B) Blue C) Green D) Yellow

113. What is the range of size that can be checked by double-ended Rib type snap gauges? [D]

A) 1 mm to 10 mm B) 10 mm to 20 mm C) 20 mm to 50 mm D) 3 mm to 100 mm

114. Which of the following option is correct regarding anvils of ‘adjustable type gap gauges’? [A]

A) Gauging anvil has only sliding movement B) Gauging anvil has only rotating movement C) Gauging anvil has both sliding and rotating movement D) Anvils are of non-adjustable type

115. Which of the following option is correct for the given statements about plain plug gauges? [D]
Statement 1: Cylindrical plugs are used for diameter above 100 mm.
Statement 2: For very large holes, spherically ended rods are used.

A) T, F B) F, F C) T, T D) F, T

116. Which principle is related to Gauge design? [C]

A) Rankin principle B) Position principle C) Taylor's principle D) Carnot Principle

117. 'Go limit' applied to which limit condition? [A]

A) Maximum material limit B) Minimum material limit C) Lower limit of shaft and upper limit of hole D) Moderate material limit

118. Which of the following is true for plug gauges? [B]

A) Size difference between 'Go' and 'No Go' plug gauges is greater than the tolerance of tested shaft or hole B) Size difference between 'Go' and 'No Go' plug gauges is Equal to the tolerance of tested shaft or hole C) Size difference between 'Go' and 'No Go' plug gauges is less than the tolerance of tested shaft or hole D) Size difference between 'Go' and 'No Go' plug gauges more or less than the tolerance of tested shaft or hole

119. Which of the following is incorrect for the gauging faces of snap gauges? [D]

A) Parallel to each other B) Square to each other C) Gauging point and work are in same plane D) Work and gauging faces are at 60 degree

120. Which of the following can't be done by 'Go' plug gauges? [A]

A) Ensure bore alignability B) Controls diameter C) Check straightness of hole D) Check degree of ovality

121. What is the effect of wear on the size of 'Go' snap gauges? [B]

A) Decrease B) Increase C) May increase or decrease D) No effect

122. What is the use of 'No Go' gauges? [A]

A) Check a single element of a feature B) Check several dimensions simultaneously C) Check roundness and size at the same time D) Check location and size at the same time

123. Which deviations are provided to a new 'Go' plug gauge from the nominal size? [C]

A) One positive deviation B) One negative deviation C) Two positive deviations D) Two negative deviations

124. Which of the following option is correct for the given statements about Gauge design? [C]
Statement 1: 'No Go' gauges should put in the condition of maximum impassability in the inspection.
Statement 2: 'Go' plug gauge corresponds to a minimum limit.

A) T, F B) F, F C) T, T D) F, T

125. If work tolerance is less than 0.09 mm then how much wear tolerance is applied to 'Go' gauge? [A]

A) 0.1 B) 0.2 C) 0.3 D) 0.4

126. What is important in testing a tapered job? [D]

A) Check the diameter at smaller end B) Change of diameter per unit mass C) Change in length per unit weight D) Change of diameter per unit length

127. What is the tolerance for a bigger diameter of taper in limit gauges? [C]

A) ± IT4 B) ± IT5 C) ± IT6 D) ± IT7

128. What is the distance (approx.) of bigger diameter from face if the value of diameter is 200mm? [D]

A) 5 mm B) 7 mm C) 10 mm D) 12 mm

129. Which of the following option is true for given statements regarding gauges for tapers? [B]
Statement 1: Use of double ended gauges is very important in limit gauges for tapers.
Statement 2: Gauges should be packed in non-absorbent paper.

A) T, T B) F, T C) T, F D) F, F

130. What is the tolerance for plug gauge on basic size? [B]

A) – IT7 B) IT5 C) IT8 D) – IT9

131. Which of the following is incorrect about gauges? [A]

A) Wear allowance is of main consideration in limit gauges for tapers B) Cylindrical ring gauges can be used for gauging external diameters C) Position gauges can be used to check the geometric relationship of features D) Workshop and inspection gauges with same tolerance limits are more beneficial

132. Which of the following option is correct for plug gauges, Plain? [C]

A) Have only one ring marked on the gauge plane B) Have only one ring indicates maximum depth C) Have two rings D) Have only one ring indicates minimum depth

133. In which of the following a limit step is present? [D]

A) Plain plug gauge B) Tanged plug gauge C) Plain ring gauge D) Tanged ring gauge

134. Which of the following option is incorrect with respect to angle gauges? [A]

A) Sine bar is better than angle gauges B) Angle gauges are made of high carbon high chromium steel C) Angle gauges can measure the angle from 0 to 360 degrees D) They are available in two sets of 13 and 16 gauges

135. How 34’ can be built by using angle gauges? [A]

A) 27’+9’-3’+1’ B) 26’+10’-2’ C) 27’+10’-3’ D) 27’+8’

136. In how many series the gauges can be divided? [C]

A) 1 B) 2 C) 3 D) 4

137. What is the approximate size of angle gauges? [A]

A) 76mm long and 16 wide B) 85mm long and 26 wide C) 16mm long and 75 wide D) 70mm long and 18 wide

138. What is the accuracy of master angle gauges? [C]

A) 0.1 sec B) 1 sec C) 0.25 sec D) 3 sec

139. Which gauges are present in the first series (degree) of angle gauges? [B]

A) 5°, 10°, 15°, 25° and 40° B) 1°, 3°, 9°, 27° and 41° C) 1°, 5°, 9°, 25° and 45° D) 5°, 10°, 15°, 30° and 45°

140. How many sets of angle gauges are available? [B]

A) 1 B) 2 C) 3 D) 4

141. Which of the following option is true for the given statements? [C]
Statement 1: Any angle up to 120°4’2’’ be made by a direct combination of angle gauges.
Statement 2: Interferometry can be used to calibrate angle gauges.

A) T, F B) F, F C) F, T D) T, T

142. What are the two grades of angle gauges? [A]

A) Master and tool room B) Precise and Normal C) Standard and Industrial D) High and low

143. How angle greater than 90° is measured? [B]

A) By repeating gauges B) Using square plate C) Using sine bar D) Using auto collimator

144. Which of the following is not a gauge from standard B angle gauges? [A]

A) 0.05’ B) 1’ C) 27’ D) 30

145. What is the use of Spirit Levels? [C]

A) Angular measurements only B) Static leveling only C) Static leveling of equipment and angular measurement D) Finding roundness of rotating parts

146. How sensitivity of spirit level is expressed? [A]

A) Angle in seconds/1 division of tube B) Angle in minutes/2 divisions of tube C) Angle in minutes/1 division of tube D) Angle in seconds/2 divisions of tube

147. Where the bubble rests on the scale when spirit level is placed horizontally? [B]

A) Left most B) Centre C) Right most D) Bottom

148. If angle of tilt is equal to 10 seconds of arc and length of one division is equal to 2.5 mm in a spirit level then what is radius of tube? [A]

A) 51.5 m B) 51.5 mm C) 25.5 m D) 25.5 mm

149. What is the total error in micrometer? [D]

A) Positive and negative deviation from the zero point B) Error in parallelism C) Deviation from measurement of a nominal dimension D) Maximum difference between ordinates of cumulative error

150. Which of the following given statement is true/false about the sensitivity of spirit level? [C]
Statement 1: Sensitivity of the spirit level increases as the radius of tube increases.
Statement 2: Spirit levels are insensitive to the temperature variation.

A) F, F B) F, T C) T, F D) T, T

151. Which of the following is true for spirit level? [B]

A) The tube is completely filled with the liquid B) The Liquid almost fills the tube C) One-fourth part of the tube is filled with liquid D) One-tenth part of the tube is filled with liquid

152. What is the least count of a micrometer? [A]

A) 0.01 mm B) 0.02 mm C) 0.1 mm D) 0.2 mm

153. What is the use of ratchet stop in micrometer? [B]

A) Prevent motion of spindle B) Maintain uniform measuring pressure C) Provide measuring surface D) Forms measuring tip

154. Which of the following is incorrect about micrometer? [C]

A) Thimble and barrel should have a dull finish
B) Total travel of the measuring spindle is called measuring range
C) Graduated surface diameter of barrel should be 5 mm
D) Screw has 10 or 20 threads per cm

155. How many divisions are graduated on thimble? [D]

A) 20
B) 25
C) 45
D) 50

156. Which of the following option is correct about given statements about micrometer? [B]
Statement 1: The anvil should not protrude from the frame.
Statement 2: An adjusting nut is present in micrometer to compensate wear

A) Only statement 1 is true
B) Only statement 2 is true
C) Both the statements are true
D) Both the statements are false

157. Which of the following is correct about micrometer? [A]

A) Plastic insulating grips are used on the frame
B) Satin chrome finish increase the reading errors
C) A uniform and maximum measuring force is applied
D) Barrel is the removable part of the frame

158. Which of the following is incorrect about precautions in using a micrometer? [C]

A) Final movement is given by ratchet
B) Thimble is turned till the Measuring tip just touches the part to be measured
C) Part to be measured is held in right hand and micrometer in left hand for good results
D) Error in reading may be due to lack of flatness of anvil

159. A master gauge is mainly used for which of the following purpose [C]

A) Checking thread angle
B) Measuring internal diameters
C) Verifying the accuracy of gauges used on shop floor
D) Measuring internal & external diameters

160. The following type of gauge has gauging sections combined on one end [B]

A) Fixed gauge
B) Progressive gauge
C) Limit gauge
D) Combination gauge