

## 'Deputy Surveyors & Town Planning Building Overseer

SUBJECT: DRAWING & SURVEYING

### FINAL KEY

1. What is the size of the **A3** drawing sheet?

**297 mm x 420 mm**

2. A continuous thin line in drawing indicates?

**All the above**

3. The slope of the single stroke inclined lettering is .....

**Leaning 67.5° to 75° to the right.**

4. What is the ratio of shorter side to longer side of a standard drawing sheet?

**1/√2**

5. What is the minimum width of border for **A0** and **A1** sheets?

**20mm**

6. What is the formula for calculating the length of the scale?

**Maximum length to be measured x R.F.**

7. What is the minimum ratio of thick line to thin line in a drawing

**2:1**

8. Visible edges and visible outlines are drawn using

**Continuous thick line**

9. Chain thin double dashed line is used to denote

**Centroidal line**

10. The minimum spacing between parallel lines including hatching lines should never be less than ..... times the thickness of heaviest line.

**2**

11. Which grade of pencil is used for drawing arrowheads?

**2H**

12. The minimum spacing between the base lines in lettering using  $d=h/10$  is.....

**$(14/10) h$**

13. What is the general application of the line shown below?



**Cutting planes**

14. A leader line should be terminated

**All the above**

15. How many equal sides are there in a regular Octagon?

**8**

16. What are the different types of projections used in orthographic projections?

**First Angle, Third Angle**

17. In first angle projection, top view is drawn

**Below the front view**

18. What is the equation used to find out the total interior angle of a polygon with 'n' number of sides?

**$(n-2) \times 180$**

19. If the three sides of a triangle are equal, it is called as

**Equilateral triangle**

20. A cone is resting on HP with its base. What is the shape of the front view?

**Triangle**

21. If an object lies in a fourth quadrant, what is its position with respect to reference plane?

**Below HP, in front of VP**

22. If an object is cut by a cutting plane parallel to VP and perpendicular to HP, the cutting section is visible in

**Front view**

23. The example for axonometric projection is

**Isometric projection**

24. When the projections are parallel to each other and also perpendicular to the reference plane, the projection is called

**Orthographic Projection**

25. In oblique projection, the plane of projection is

**Parallel to cutting plane**

26. If the horizontal trace [HT] of a point in 1<sup>st</sup> quadrant is 50 mm below reference line [xy], then its position will be

**50 mm in front of VP**

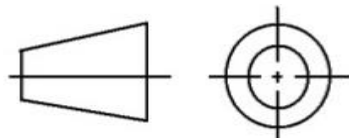
27. A cone is resting on the HP with its base. If is cut by a section parallel to HP and perpendicular to axis of the cone. What will be the shape of the cutting plane in top view

**Circle**

28. What is the angle between two lines  $P_1$  and  $P_2$ , if  $P_1$  is passing from  $[0,0]$  to  $[1,1]$  and  $P_2$  is passing from  $[0,0]$  to  $[1,0]$

**45°**

29. The Fig. given below is ..... projection



**First angle**

30. The three angles of a quadrilateral are  $60^\circ$ ,  $90^\circ$  and  $75^\circ$ . What will be the fourth angle?

**$135^\circ$**

31. When the diagonals of a quadrilateral are perpendicular to each other, then it is called as

**Rhombus**

32. The front view of an object resting in first quadrant is shown on

**Vertical plane**

33. A line is of 3 m long. If **RF is 1/100**, what is its length in the drawing

**3cm**

34. Which of the following is not a reducing scale

**2:2**

35. Graphical representation of a scale is always better than numerical representation because

**To prevent errors due to shrinkage**

36. The diagonal scale is used, when measurements are required in ..... units

**3**

37. An area of  **$10,000 \text{ m}^2$**  is represented in  **$100 \text{ cm}^2$**  area in a map. The RF of the scale is .....

**1/1,000**

38. If a line intersects a circle at two points and does not pass through the centre, the line segment inside the circle is referred as

### **Chord**

39. Which scale is used, if you need to measure small distances more accurately?

### **Vernier scale**

40. Scales having same RF, but graduated to read different units are called

### **Comparative scale**

41. Which scale is used in surveying instrument like compass, theodolite?

### **Circular Vernier scale**

42. The distance between two points in a map is 15cm which are 30 km apart on the ground. What would be the map distance, if the ground distance is 5 km?

### **2.5cm**

43. Name of the solid having two bases that are having 5 sided parallel and equal polygons

### **Pentagonal prism**

44. In a hexagonal pyramid, how many triangular faces are there?

### **Six**

45. The name of the solid having 4 equal faces, each of it is an equilateral triangle is

### **Tetrahedron**

46. .... is a solid generated by the revolution of a semi-circle about its diameter as the axis.

### **Sphere**

47. The straight line drawn from the apex to the circumference of the base of a cone is called

### **Generator**

48. When a cone is cut by a plane at an angle such that, it cuts all the generators of it. The conic formed is

**Ellipse**

49. If the distance from focus is **15 cm** and the distance from directrix is **30 cm**. what is the eccentricity?

**0.5**

50. A surface obtained by revolving a parabola around its axis, generally used in mirrors and antenna dishes is called.....

**Paraboloid**

51. If the eccentricity of a conic is more than one, it is called.....

**Hyperbola**

52. The eccentricity of a circle is.....

**0**

53. The conventional sign shown in below figure represents a .....



**Glass**

54. The conventional sign shown in below figure represents a .....



**Stone masonry**

55. The conventional sign shown in below figure represents a .....



**Tile**

56. The conventional sign shown in below figure represents a .....



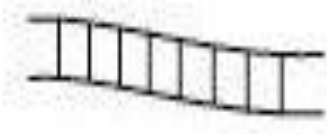
**Revolving**

57. The conventional sign shown in below figure represents a .....



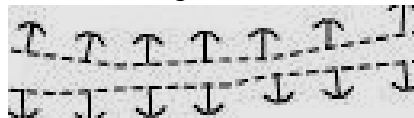
**Church**

58. The conventional sign shown in below figure represents a .....



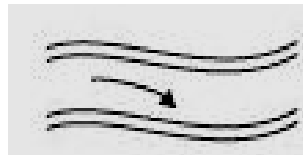
**Railway line- double**

59. The conventional sign shown in below figure represents a .....



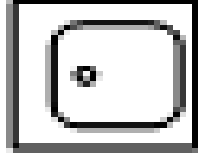
**Embankment**

60. The conventional sign shown in below figure represents a .....



**River**

61. The conventional sign shown in below figure represents a .....



**Basin**

62. The conventional sign shown in below figure represents a .....



**Both Man hole and Inspection chamber**

63. The conventional sign shown in below figure represents a .....



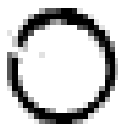
**Buzzer**

64. The conventional sign shown in below figure represents a .....



**Light plugs**

65. The conventional sign shown in below figure represents a .....



**Single light pendant**

66. The conventional sign shown in below figure represents a .....





**Bracket fan**

67. The conventional sign shown in below figure represents a .....



**Ashlar stone masonry**

68. The brick laid with its breadth parallel to the face of wall, is known as

**Header**

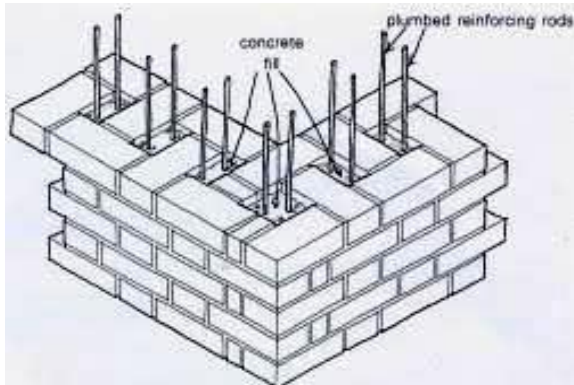
69. The piece of a brick cut along its one corner equivalent to half the length and half the width of a full brick. Is known as

**King closer**

70. To construct a 10 cm thick partition wall, you will prefer

**Stretcher bond**

71. Choose the technical term for the following figure



**Quetta bond**

72. Height of stones after dressing should not be less than .....nor greater than ..... inclusive of thickness of joints for high class work

**15cm, 30cm**

73. Which stone commonly used in building construction is .....

**All The Above**

74. In .....type of construction; the stones of irregular sizes are used.

**Rubble masonry**

75. What is the example for the deep foundation among the following

**Pier foundation**

76. The minimum depth of the foundation as per the NBC

**50 cm below natural ground level**

77. The safe bearing capacity of a soil is equal to its ultimate bearing capacity divided by a .....

**Factor of safety**

78. In ordinary residential and public buildings, the damp proof course is generally provided at

**Plinth level**

79. For providing in vertical DPC..... is the thickness of cement plaster

**20 mm**

80. A ..... layer is in proportion 1:2:4 is generally provided at the plinth level to work as a damp proofing course.

**Cement concrete**

81. A door frame essentially consists of two vertical members known as .....

## **Style**

82. This is the most common type of doors made in different designs, but glass panes are fixed in these doors

### **Glazed and panalled doors**

83. This is a fixed window provided on the sloping surface of a pitched roof .....

### **Sky light window**

84. The term ..... is used to describe the free movement of fresh air through the building.

### **Ventilation**

85. This truss is used for spans of 5m to 8m

### **King Post Roof Truss**

86. Steel roof trusses are better than

### **Timber trusses**

87. ....truss differs from King post Truss in having two vertical members.

### **Queen post truss**

88. The geometrical reference point from where the curve of the arch is drawn

### **Centre**

89. An arch constructed with finely dressed stones, is known

### **Ashlar arch**

90. ....floors are preferred for buildings at hill stations, auditoriums, ball rooms etc.,

### **Timber**

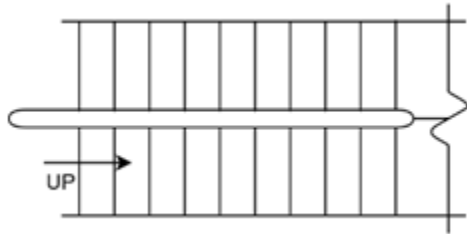
91. Part of the buildings accommodating the stair is known as .....

### **Staircase**

92. In this type of stair all the steps are tapering in shape of winders

### **Spiral stair**

93. The figure below represents a:



### **Dog-legged stairs**

94. When the water is not available throughout the year

### **Tube well irrigation**

95. In gravity canals FSL is

### **Only few centimeters above the ground level**

96. .... are a set of drawings or two-dimensional diagrams used to describe a place or object, or to communicate building or fabrication instructions.

### **Plans**

97. A ..... is a structural element in masonry construction that provides support at openings in the masonry. Alternate names are "flat arch" and "straight arch".

### **Jack arch**

98. For a four layer flexible pavement, there is a surface course, base course, and ..... constructed over a compacted, natural soil sub-grade.

### **Sub-base course**

99. The Indian Roads Congress was formed in the year?

**1934**

100. In Broad gauge, the clear distance between two parallel rails is .....  
**1.676 m**
101. The track and ballast form the .....

**Permanent way**

102. The life of ..... is more than 100 years

**Cast iron pipe**

103. .... tool is used to hold the pipe for cutting and to provide threads the pipe

**Pipe vice**

104. In ..... Joint, the ends of pipes are gasket adjusted

**Collar**

105. When two plates are placed end to end and are joined by two cover plates , the joint is known as .....

**Double cover butt joint**

106. Why is double cover butt joint preferred over single cover butt joint or lap joint?

**Eliminates eccentricity**

107. The Main Principle of surveying is .....

**Work from whole to part**

108. As per Indian Standards, the number of links in a 30 meters chain is .....

**150**

109. The area of plot to be surveyed is more than 260 km<sup>2</sup> , the most suitable method is .....

**Geodetic surveying**

110. Ranging is a process of .....

**Aligning the chain in straight line between two extremities**

111. Cross staff is an instrument used for .....

**Setting out right angles**

112. Example of an obstacle to both chaining and ranging is .....

**Tall building**

113. Offset rods are useful to .....

**Measure the short offset**

114. An open cross-staff is commonly used for setting out .....

**Short Offsets**

115. The obstacle which obstructs vision but not chaining is a .....

**Hill**

116. The most accurate method for the measurement of the base line is .....

**EDM**

117. In chain surveying, field work is limited to .....

**Linear Measurements only**

118. The correction for sag is .....

**Always negative**

119. A triangle is said to be well conditioned triangle, when its angles lie between .....

**30° and 120°**

120. Which of the following is not used in measuring perpendicular offsets?

**Line ranger**

121. Handles of chains are made up of .....
- Brass**
122. The length of an Engineer's chain is .....
- 100 feet**
123. The length of a link of Gunter's chain is .....
- 0.66'**
124. Indirect ranging is adopted when the two ends of chain line are .....
- Mutually not visible**
125. Reciprocal ranging is adopted when the following is encountered
- A Hillock**
126. A ..... field book is convenient for large scale and detail dimensions
- Single line**
127. Measurements and sketches of chain survey are booked in a .....
- Field book**
128. The rise and fall method of leveling provides a complete check on
- All the above**
129. If the R.L of a B.M is 100.00 m, the back sight is 1.215 m and fore sight is 1.870 m, the R.L of the forward station is .....
- 99.345 m**
130. Smallest division of a Levelling staff is .....
- 0.005 m**
131. Vertical distance of the point above the MSL is known as .....
- Altitude**

132. Combined correction for curvature and refraction is always .....  
**-ve**

133. A Levelling station is a place where .....

**The level staff is held**

134. A plumb line is .....

**A line perpendicular to level line**

135. Line of collimation .....

**The line joining point of intersection of cross hairs and optical centre of object glass**

136. The very first reading taken is called .....

**Back sight**

137. A change point is .....

**The intermediate station where FS and BS are taken**

138. The telescope of a Dumpy Level .....

**Is rigidly fixed to the levelling head**

139. A bench mark is a .....

**Point of known elevation**

140. An invert is taken when the point is .....

**Above the line of sights**

141. Contour lines .....

**Close somewhere**

142. Contour lines look to cross each other in case of .....

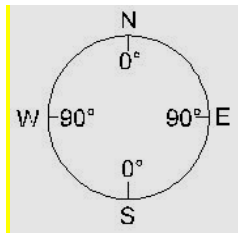
**An overhanging cliff**



143. A freely floating needle slightly gets inclined to the horizontal anywhere except on the equator. It is called

**Dip**

144. The graduation on a surveyor's compass is .....



145. The reduced bearing of a line is N 67° E. Its Whole Circle Bearing is .....

**67°**

146. The Fore bearing of a line is 225°. The back bearing of the line in quadrantal system is .....

**N 45°E**

147. The sum of the exterior angles of a closed traverse of side's  $n$  is equal to .....

**$(2n+4) * 90$**

148. The bearing of a line AB is 190°0' and that of BC is 260° 30' the included angle ABC is .....

**109° 30'**

149. The horizontal angle between the true meridian and magnetic meridian at a place is called .....

**Declination**

150. The Fore bearing and Back bearing of a line whose end stations are free from local attractions, should differ by .....

**180°**