1. The basic geometric structures provided by graphics primitive packages are referred to as ____________.
   A) inputs  B) input primitives  C) outputs  D) output primitives

2. ____________ and ____________ are the basic output primitives.
   A) Points, line segments  B) Points, circles  C) Line segments, Curves  D) Circles, polygons

3. ____________ is the fundamental element of the picture representation.
   A) Line segment  B) Point  C) Circle  D) Polygon

4. Minimum ____________ points are required to represent a line.
   A) two  B) three  C) four  D) none of these

5. The equation of a line in slope intercept form is given as ____________.
   A) \( x = my + b \)  B) \( y + b = mx \)  C) \( y = mx + b \)  D) \( b = mx + y \)

6. In a equation of a line, \( y = mx + b \), \( b \) is ____________.
   A) Slope of a line  B) constant  C) the height at which the line crosses the x-axis  D) the height at which the line crosses the y-axis

7. When we say a line, it ____________
   A) extends forward  B) extends backward  C) ends at two points  D) extends forever both forward and backward

8. If two lines are parallel, they have ____________ slope.
   A) different  B) zero  C) same  D) none of these

9. The multiplication of a vector and the reciprocal of its length is equal to ____________.
   A) zero  B) one  C) Can’t define  D) none of these

10. The process of turning on the pixels for a line segment is called ____________.
    A) vector generation  B) line generation  C) pixel generation  D) (a) or (b)

11. The line drawn using line drawing algorithm should be displayed with ____________ brightness.
    A) varying  B) constant  C) minimum  D) maximum

12. The width of 45° line drawn by line drawing algorithm is ____________.
    A) constant  B) not constant  C) minimum  D) maximum

13. The end point accuracy of DDA line drawing algorithm is ____________.
    A) good  B) better  C) best  D) poor

14. Floating point arithmetic in DDA algorithm is ____________.
    A) Time efficient  B) time consuming  C) fast  D) slow

15. DDA line drawing algorithm for calculating pixel positions is ____________ the direct use of equation \( y = mx+b \).
    A) slower than  B) faster than  C) of equal speed to that of  D) none of these

16. Algorithms those use the outputs of the previous iteration, in the computation of outputs in the current iteration are called ____________ algorithms.
    A) successive approximation  B) incremental  C) double refreshing  D) scan-line

17. The advantage of Bresenham’s algorithm over conventional DDA algorithm is ____________?
    A) no rounding operation  B) use of integer addition and subtraction  C) producing smooth appearance  D) less number of iterations
18. In one octant of the circle is generated, to complete the generation of full circle, how many reflections are required?
   A) 1  B) 2  C) 4  D) 8

19. The best line drawing algorithm among all possible line drawing algorithms is ______________.
   A) DDA  B) Algorithm which uses direct equation of line  C) Bresenham’s algorithm  D) None of these

20. The value of initial decision parameter in Bresenham’s line drawing algorithm for |m| < 1 is ______________.
   A) 2Δy − Δx  B) 2Δy + Δx  C) -2Δy + Δx  D) -2Δy − Δx

21. The value of initial decision parameter in mid point circle drawing algorithm is ______________.
   A) 2  B) 5/4  C) 1  D) Both (a) and (b)

22. Points P1(3.2, 7.8) and P2(3.7, 7.1) are both represented by pixel ______________.
   A) (3, 8)  B) (4, 7)  C) (3, 7)  D) (4, 8)

23. Pixel phasing is an anti-aliasing technique based on ______________.
   A) hardware  B) software  C) both hardware and software  D) none of these

24. The anti-aliasing technique which allows shift of ¼, ½ and ¾ of a pixel diameter enabling a closer path of a line is ________.
   A) pixel phasing  B) filtering  C) intensity compensation  D) sampling technique

26. Pixel phasing is a technique for ______________.
   A) shading  B) anti-aliasing  C) hidden line control  D) none of these

27. A line connecting the points (1, 1) and (5, 3) is to be drawn, using the DDA algorithm. Find the values of x and y increments.
   A) x-increment = 1, y-increment = 1  B) x-increment = 0.5, y-increment = 1  C) x-increment = 1, y-increment = 0.5  D) none of these

28. Which of the following algorithms can be used for circle generation?
   A) Bresenham’s algorithm  B) Midpoint algorithm  C) Both (a) and (b)  D) None of these

29. Aliasing means ______________.
   A) Rendering effect  B) Shading effect  C) Staircase effect  D) Cueing effect

30. Slope of the line joining the points (1, 2) and (3, 4) is ______________.
   A) 0  B) 1  C) 2  D) 3

31. ______________ is a global character set that enables information from any language to be stored using a single character set.
   A) Gcode  B) Unicode  C) Mcode  D) Globalcode

32. ______________ provides a unique code value for every character, regardless of the platform, program or language.
   A) Gcode  B) Unicode  C) Mcode  D) Globalcode

33. ______________ uses 8-bit encoding.
   A) UTF-8  B) UCS-2  C) UTF-16  D) None of these

34. ______________ uses 16-bit encoding.
   A) UTF-8  B) UCS-2  C) UTF-16  D) Both (b) and (c)

35. ______________ uses variable-width encoding.
   A) UTF-8  B) UCS-2  C) UTF-16  D) Both (b) and (c)

36. One Unicode character can be 1 byte, 2 bytes, 3 bytes or 4 bytes in ______________ encoding.
   A) UTF-8  B) UCS-2  C) UTF-16  D) None of these

37. In UTF-8, European scripts are represented in ______________.
   A) 1 byte  B) Either 1 or 2 bytes  C) 3 bytes  D) 4 bytes

38. In UTF-8, Asian scripts are represented in ______________.
   A) 1 byte  B) Either 1 or 2 bytes  C) 3 bytes  D) 4 bytes

39. In UTF-8, supplementary characters are represented in ______________.

{Faculty Name: Ms. Vishakha A. Metre}
40. If two points used to line are \((x_1, y_1)\) and \((x_2, y_2)\), then the equation of a line is given as \(\frac{x-x_1}{y-y_1} = \frac{y_2-y_1}{x_2-x_1}\).  
A) \(\frac{x-x_1}{y-y_1} = \frac{y_2-y_1}{x_2-x_1}\)  
B) \(\frac{y-y_1}{x-x_1} = \frac{y_2-y_1}{x_2-x_1}\)  
C) (a) or (b)  
D) none of these

41. When a line is represented by equations, \(y = mx + b\) and \(rx + sy + t = 0\), then \(m = \frac{r}{s}\).  
A) \(-\frac{r}{s}\)  
B) \(\frac{r}{s}\)  
C) \(\frac{s}{r}\)  
D) \(-\frac{s}{r}\)

42. When a line is represented by a equation in a general form as, \(rx + sy + t = 0\), the values of \(r\), \(s\) and \(t\) are taken so that _______.  
A) \(r^2 - s^2 = 1\)  
B) \(r^2 + s^2 = 1\)  
C) \(r^2 - s^2 = 0\)  
D) \(r^2 + s^2 = 0\)

43. If two line are represented by equations \(r_1x + s_1y + t_1 = 0\) and \(r_2x + s_2y + t_2 = 0\), then their point of intersection is given by,  
A) \(\begin{bmatrix} r_1t_2 - r_2t_1 \\ s_1t_2 - s_2t_1 \\ t_1r_2 - t_2r_1 \end{bmatrix} \)  
B) \(\begin{bmatrix} r_1t_2 - r_2t_1 \\ s_1t_2 - s_2t_1 \\ t_1r_2 - t_2r_1 \end{bmatrix} \)  
C) \(\begin{bmatrix} s_1r_2 - s_2r_1 \\ r_1s_2 - r_2s_1 \\ t_1r_2 - t_2r_1 \end{bmatrix} \)  
D) \(\begin{bmatrix} r_1t_2 - r_2t_1 \\ s_1t_2 - s_2t_1 \\ t_1r_2 - t_2r_1 \end{bmatrix} \)

44. If a line segment between \((x_1, y_1)\) and \((x_2, y_2)\) is represented in parametric form with a parameter \(u\), then the expression for \(y\) can be given as \(y_1 + (y_2 - y_1)u\).  
A) \(y = y_1 + (y_2 - y_1)u\)  
B) \(y = y_1 - (y_2 - y_1)u\)  
C) \(y = y_1 + (y_1 - u)y_2\)  
D) \(y = y_1 + (u - y_1)y_2\)

45. If two endpoints of a line segment are \(P_1(x_1, y_1)\) and \(P_2(x_2, y_2)\), then the length of the line segment \(P_1P_2\) \(L\) is given by _______.  
A) \(L = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}\)  
B) \(L = \sqrt{(x_2 - x_1)^2 - (y_2 - y_1)^2}\)  
C) \(L = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}\)  
D) none of these

46. A vector has _____________.  
A) a single direction  
B) a length  
C) start and end points  
D) both (a) and (b)

47. The brightness of the line is dependent on the _____________of the line.  
A) orientation  
B) start and end points  
C) length  
D) none of these

48. ____________ is the Unicode encoding used by Java and Microsoft Windows NT 4.0.  
A) UTF-8  
B) UCS-2  
C) UTF-16  
D) Both (b) and (c)

49. ____________ provides better compatibility with Java and Microsoft clients.  
A) UTF-8  
B) UCS-2  
C) UTF-16  
D) Both (b) and (c)

50. Sign function makes the DDA line drawing algorithm work in ____________ quadrants.  
A) I and II  
B) I and III  
C) II and III  
D) all

{Faculty Name: Ms. Vishakha A. Metre}