SSLC – Class 10 Mathematics

ONE MARK QUESTION PAPER (40 MCQs)

1. If n(A) = 6 and B = {1,3}, then n(A × B) is

(A) 6
(B) 12
(C) 18
(D) 3

2. If two ordered pairs (x, y) and (2, –2) are equal, then (x, y) is

(A) (5, 1)
(B) (2, –2)
(C) (2, 3)
(D) (3, –2)

3. The number of relations from a set with 2 elements to a set with 3 elements is

(A) 6
(B) 8
(C) 64
(D) 9

4. A function which maps every element to itself is called

(A) One–one
(B) Onto
(C) Identity
(D) Many–one

5. If a function is both one–one and onto, it is called

(A) Identity
(B) Bijective
(C) Into
(D) Constant

6. The HCF of the least prime number and the least composite number is

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

7. The remainder when the cube of any integer is divided by 9 is

(A) 0, 1, 8
(B) 1, 4, 8
(C) 0, 3, 6
(D) 2, 5, 7

8. The 10th term of an A.P. with first term 1 and common difference 4 is

(A) 36
(B) 37
(C) 40
(D) 41

9. The number of terms in the G.P. 5, 20, 80, … , 20480 is

(A) 6
(B) 7
(C) 8
(D) 9

10. The sum of the first n natural numbers is

(A) n^2
(B) $n(n+1)$
(C) $n(n+1)/2$
(D) $n^2/2$

11. A system of linear equations is inconsistent if the lines

(A) intersect at one point
(B) intersect at two points
(C) are parallel
(D) coincide

12. The graph of a linear polynomial is a

(A) Circle
(B) Parabola
(C) Straight line
(D) Hyperbola

13. The number of zeroes of a quadratic polynomial is at most

(A) 1
(B) 2
(C) 3
(D) 0

14. The discriminant of the equation $x^2 – 4x + 4 = 0$ is

(A) 0
(B) 4
(C) 8
(D) 16

15. The order of a matrix with 3 rows and 2 columns is

(A) 2 × 3
(B) 3 × 2
(C) 3 × 3
(D) 2 × 2

16. Two triangles are similar if their corresponding angles are

(A) equal
(B) supplementary
(C) right angles
(D) unequal

17. The ratio of the areas of two similar triangles is equal to

(A) ratio of sides
(B) square of ratio of sides
(C) cube of ratio of sides
(D) ratio of heights

18. The angle between a tangent and radius at the point of contact is

(A) 0°
(B) 45°
(C) 90°
(D) 180°

19. The number of tangents drawn from an external point to a circle is

(A) 1
(B) 2
(C) 3
(D) Infinite

20. The distance between the tops of two poles of heights 6 m and 11 m standing 12 m apart is

(A) 13 m

(B) 14 m
(C) 15 m
(D) 12 m

21. The distance between the points (0,0) and (3,4) is

(A) 4
(B) 5
(C) 6
(D) 7

22. The slope of a line parallel to the x-axis is

(A) 1
(B) -1
(C) 0
(D) ∞

23. The equation of a line parallel to the y-axis is

(A) $y = mx + c$
(B) $x = a$
(C) $y = a$
(D) $ax + by = 0$

24. Three points are collinear if the area of the triangle formed by them is

(A) maximum
(B) minimum
(C) zero
(D) non-zero

25. The slope of a line perpendicular to a line of slope m is

(A) m
(B) $-m$
(C) $1/m$
(D) $-1/m$

26. The value of sin 30° is

(A) 0
(B) 1
(C) 1/2
(D) $\sqrt{3}/2$

27. If $\tan \theta = 1$, then θ is

(A) 30°
(B) 45°
(C) 60°
(D) 90°

28. The angle of elevation when the height and shadow are equal is

(A) 30°
(B) 45°
(C) 60°
(D) 90°

29. The value of $\sin^2 60° + \cos^2 60°$ is

(A) 0
(B) 1
(C) 2
(D) 1/2

30. If $\sin \theta = 0$, then θ is

(A) 0°
(B) 30°

(C) 45°
(D) 60°

31. The curved surface area of a cylinder is

(A) $2\pi r^2$
(B) $\pi r^2 h$
(C) $2\pi rh$
(D) πrh

32. The volume of a cone is

(A) $\pi r^2 h$
(B) $1/3\ \pi r^2 h$
(C) $2\pi rh$
(D) πr^2

33. The total surface area of a sphere is

(A) $2\pi r^2$
(B) $3\pi r^2$
(C) $4\pi r^2$
(D) $6\pi r^2$

34. If the radius of a sphere is doubled, its volume becomes

(A) 2 times
(B) 4 times
(C) 6 times
(D) 8 times

35. The shape of a shuttle cock is

(A) Cone and sphere
(B) Cylinder and cone
(C) Hemisphere and cone
(D) Sphere and cylinder

36. The range of the data 5, 5, 5, 5, 5 is

(A) 0
(B) 5
(C) 1
(D) 10

37. The sum of deviations of observations from their mean is

(A) positive
(B) negative
(C) zero
(D) non-zero

38. The probability of a sure event is

(A) 0
(B) 1
(C) 1/2
(D) -1

39. The probability of an impossible event is

(A) 1
(B) 0
(C) -1
(D) 1/2

40. If a coin is tossed once, the probability of getting a head is

(A) 0
(B) 1
(C) 1/2

(D) 1/4