ಅಲ್ಪ ಸಂಖ್ಯಾತರ ಕಲ್ಯಾಣ ಇಲಾಖೆ
ಅಲ್ಪ ಸಂಖ್ಯಾತರ ನಿರ್ದೇಶನಾಲಯ

MATHEMATICS SSLC MCQ QUESTIONS CHAPTERWISE

10th Standard E.M

Presented by:

Directorate of Minorities
Minority welfare department

Minority Welfare Department

Directorate of minorities

Mr.MAHIBOOB SAB KARATAGI
HONORABLE DIRECTOR
DIRECTORATE OF MINORITIES

SSLC Mathematics
MCQ QUESTIONS CHAPTERWISE

-:Mentor:-

Mr.KANTHARAJU K
NODAL OFFICER,
STATE LEVEL QUESTION PAPERS DESIGN COMMITTEE
PRINCIPAL, MMDRS SIRA

-: Subject Coordinator:-

Mr.GOUSPEER H,
PRINCIPAL, TAYAKANAHALLI, KUDLIGI
VIJAYANAGARA DIST

RESOURCE TEAM

Mr.SUDHAKAR BOSAGE
MMDRS Navanagara, Bagalakote dist

Mr.ArunKumar
MMDRS Peresandra, Chikkaballapur

Mr.MANJUNATH
MMDRS MADHUGIRI,
TUMAKURU

Mr.Khajappa Madyal
MMDRS Afzalpur, Kalaburagi

Mr.Vijayamahantesh Badiger
MMDRS Gillesuguru, Raichur

Mr.Ravi Kambale
MMDRS, JAMAKHANDI
BAGALKOTE DIST

Mr.Mithun Chakravarthy
MMDRS Rangapura Kawali
Arsikere, Hasan

Miss.ANITHA K
MMDRS KAMPLI, BALLARI DIST

Mr.Nagappa kumbar
MMDRS BELAGAVI TOWN

Mr.Thalavara Shivappa,
MMDRS Harapanahalli Town,
VIJAYANAGARA DIST

CHAPTER -01 ARITHMETIC PROGRESSION

Multiple choice Questions:

1. If $a_n = n^2 - 1$ and $a_n = 99$ then the value of n is
   a) 100 b) 10 c) 9 d) 99
2. If $a_n = 2n^2 - 1$ then the value of 4th term is
   a) 32 b) 30 c) 31 d) 18
3. If $a_n = 2n + 1$ then the common difference of the AP is
   a) 3 b) 5 c) 2 d) 1
4. The general form of an A.P is
   a) a, ar, ar^2,... . b) a, a + d, a + 2d, ... c) a, a–d, a–2d,.... d),.... a a d a 2d
5. In an A.P the common difference is 3 first term is 1 then the value of 10th term is
   a) 28 b) 27 c) 25 d) 40
6. The formula to find nth term of an A.P is.
   a) a + (n–1)d b) ar^{n-1} c) a (n -1)d d) a – (n + 1)d
7. If 20, x + 1, 4 are in A.P then value of x is
   a) 11 b) 12 c) 24 d) 13
8. In an arithmetic progression $a_n + 5 = 35$ & $a_n + 1 = 23$ then common difference is
   a) 3n b) 4n c) 2 d) 3
9. In an A.P the relation between a5 and a7 and common difference (d) is
   a) a5 = a7 + 2d b) a5 = a7 + d c) a7 = a5 + 3d d) a7 = a5 + 2d
12. In an A.P, if $S_5 = 35$ and $S_4 = 22$ then 5th term is.
   a) 35 b) 10 c) 13 d) 22
13. The nth term of 3, 7, 11, 15,..... is
   a) 4n – 1 b) 4n + 1 c) 4n + 3 d) 3n + 4
14. In an A.P, if T4 = 8 & a = 2, then its common difference is
   a) 6 b) 4 c) 2 d) 10
15. In an A.P $a_n + 5 = 35$ and $a_n + 1 = 23$ then common difference
   a) 3 b) 2 c) 3n d) 2n
16. Among the following arithmetic progression is
   a) 1, 4, 6, ... b) 12, 10, 14,... c) 35, 32, 25,.... d) 8, 13, 19,.....
17. In an AP, the correct relation is

a) $a_{n-5} = a_{n-4} + d$ b) $a_{n-5} = a_n - 6 + d$

c) $a_{n-5} = a_n + d$ d) $a_n - 5 = a_n - d$

18. The value of $\sum n$ is

a)10 b) 11 c) 55 d) 110

19. If 2x + 1, 4x, 13–x are in Arithmetic progression then x is equal to

a) 2 b) 3 c) 4 d) 5

20. In a progression, if an = 2n2 + 1, then S2 is

a) 9 b) 12 c) 10 d) 11

Answers

1-b	2-c	3-c	4-b	5-a	6-a	7-a	8-d	9-d	10-b
11-b	12-c	13-a	14-c	15-a	16-c	17-b	18-c	19-a	20-b

CHAPTER -02 TRIANGLES

Multiple choice questions:

1. D and E are respectively the points on the sides AB and AC of a triangle ABC such that AD=2cm, BD= 3cm,BC=7.5cm and DE||BC. Then length of DE is
   a) 2.5cm b)3cm c)5cm d)6cm
2. In the adjoining figure, XY||BC then $\frac{AX}{AB}$ is equal to
   a) $\frac{AX}{AY}$ b)$\frac{AX}{XB}$ c) $\frac{AY}{AC}$ d)$\frac{AC}{AY}$
3. In the given figure, ∟ABC~ ∟AYX, then the ratio of the corresponding sides is
   a) $\frac{AX}{AC} = \frac{AB}{AY} = \frac{CB}{XY}$
   b) $\frac{AB}{AY} = \frac{BC}{XY} = \frac{AX}{AC}$
   c) $\frac{AB}{AX} = \frac{AC}{AY} = \frac{BC}{XY}$
   d) $\frac{AX}{AC} = \frac{AY}{AB} = \frac{XY}{CB}$
4. In ΔABC, D and E are the mid-points of AB and AC respectively. Then the area of ΔADE is
   a) 4 ΔABC b) ¼ ΔABC c) 2 ΔABC d) ½ ΔABC
5. In a right angled triangle hypotenuse is l and the remaining two sides are m and n. Then the correct relation is:
   a) m = $+\sqrt{n^2 - l^2}$ b) n = $+\sqrt{m^2 - l^2}$
   c) m = $+\sqrt{l^2 - n^2}$ d) $l = +\sqrt{m^2 - n^2}$
6. In the given figure ST||QR then $\frac{PS}{SQ}$ is equal to
   a) $\frac{PT}{TR}$ b) $\frac{PS}{TR}$ c) $\frac{PT}{SQ}$ d) $\frac{PT}{SR}$
7. If ΔABC ~ ΔDEF, BC= 3cm, EF= 4cm and area of a ΔABC = 54cm², then area of ΔDEF is
   a) 96cm² b) 86 cm² c) 46 cm² d) 66cm²
8. In ΔPQR, PR =12cm, QR= $6\sqrt{3}$cm, PQ =6cm.The angle Q is
   a) 45° b) 90° c) 30° d) 120°

9. If in two triangles ABC and PQR , $\frac{AB}{QR} = \frac{BC}{PR} = \frac{CA}{PQ}$ then

a) ΔPQR~ΔCAB b) ΔPQR~ΔABC c) ΔCBA~ΔPQR d) ΔBCA~ΔPQR

10. In a right angled triangle ABC, if ∟CAB =90° which of the following is correct

a) $BC^2 = AC^2 + AB^2$ b) $AC^2 = AB^2 + BC^2$

c) $AB^2 = BC^2 + AC^2$ d) $BC^2 = AB^2 - AC^2$

11. In the figure if ΔPOQ ~ ΔSOR and PQ:RS = 1:2 then OP:OS is

a) 1:2 b) 2:1 c) 3:1 d) 1:3

12. If ABC and PQR are similar triangles in which ∟A = 47° and ∟Q = 83°, then ∟C is

a) 50° b)40° c) 60° d) 80°

Answers:

1. b
2. c
3. b
4. b
5. c
6. a
7. a
8. b
9. a
10. a
11. a
12. a

Multiple Choice Questions.

(a) x + 3y = 8 (b) x= 2y (c) x2 + 5x + 8 = 0 (d) y = 0.

(a) x – y = 4 (b) x + y = 4 (c) 2x + y = 8 (d) 2y + x = 9

3. The pair of co-ordinates satisfying 2x + y = 6 is
   (a) (2, 2) (b) (2, 3) (c) (4, 1) (d) (5, 1)
4. The pair of equations x = 0 and y = 0 represents.

5. If the ten's and unit's digits of a two digit number are y and x respectively, then the number will be.
   (a) 10y + x (b) 10x + y (c) 10xy (d) y + x

(a) 3 (b) 2 (c) 5 (d) 4

7. The coordinates of the origin are.
   (a) (0, 1) (b) (1, 0) (c) (2, 2) (d) (0, 0).
8. The point (–3, –4) lies in the Quadrant.
   (a) I (b) II (c) III (d) IV

(a) (0, 0) (b) (0, –6) (c) (0, 2) (d) (2, –6)

(a) Parallel (b) intersecting at (3, 4) (c) Coincident (d) intersecting at (4, 3)

(a) 3x + 4y = 14 (b) 8x + 6y = 28 (c) –12x = 9y (d) 12x + 9y = 42.

12. The pair of equations x + y = 0 and x + y = –7 has
    (a) one solution (b) no solution (c) two solutions (d) infinitely many solutions

(a) K = 5 (b) K ≠ 10 (c) K = 10 (d) K ≠ 5.

14. If y = 2x – 3 and y = 5 then the value of x is.

(a) 1 (b) 2 (c) 3 (d) 4

15. The sum of two numbers is 8 and their difference is 2. Find the numbers.

(a) 5 and 3 (b) 6 and 4. (c)4 & 2 (d)4&4

16. The larger of two supplementary angles exceeds the smaller by 18 degrees. Find them.

(a) 98°, 82° (b) 99°, 81° (c) 118, 100° (d) 80°, 100°

(a) 1/ 3 (b) –1/ 3 (c) 1 (d) 2/ 3

(a) 1 (b)2 (c)3 (d)4

19. The value of x if y = 1 / 2 x and 3x + 4y = 20 is

(a) 3 (b) 5 (c) 6 (d) 4

Key answers:

1.(c)	2.(b)	3.(a)	4.(d)	5.(a)	6.(b)
7.(d)	8.(c)	9.(d)	10.(d)	11.(c)	12.(b)
13.(c)	14.(d)	15.(a)	16.(b)	17.(b)	18.(a)
19.(c)	20.(d)				

CHAPTER -04 CIRCLES

MCQ QUESTIONS:

1. Line segment joining the centre and a point on the circle is called
   (a) radius (b) diameter (c) Chord (d) Arc
2. Part of a circle is called
   (a) Chord (b) diameter (c) Segment (d) Arc
3. The biggest chord in a circle is called
   (a) radius (b) diameter (c) chord (d) Arc
4. The region bounded by a major arc and a chord is called
   (a) Segment (b) major segment (c) minor segment (d) major arc
5. The length of the biggest chord is 8 cm then the value of radius is
   (a) 8 cm (b) 4 cm (c) 3 cm (d) 5 cm
6. How many radius can be drawn in circle
   (a) 1 (b) 2 (c) only 3 (d) many
7. An angle in a semicircle is.
   (a) 60° (b) 30° (c) 90° (d) 180°
8. Equal chords of a circle are.
   (a) Equidistant from the centre. (b) Equal
   (c) Unequal (d) Not equidistant from the centre
9. If the length of the chord increases its perpendicular distance from the centre.
   (a) Increases (b) Decreases (c) Equal (d) Constant
10. The perpendicular distance between the biggest chord and the centre is.
    (a) zero (b) Equal (c) 9 cm (d) 10 cm
11. In a circle angles in the major segment are called.
    (a) Obtuse angles (b) Acute angles. (c) Right angles (d) Complete angle
12. In a circle angles in the minor segment are called.
    (a) Obtuse angles (b) Acute angles. (c) Right angles (d) zero angle
13. In a circle angles in the same segment are
    (a) Not equal (b) Right angles (c) Equal (d) zero angle.
14. Circles having the same centre but different radii are called.
    (a) Congruent circles (b) Concentric circles
    (c) Equal circles (d) None of these
15. Circles having same radii but different centres are called
    (a) Congruent circles (b) Concentric circles
    (c) Equal circles. (d) Intersecting circles

a) 1 b) 2 c) 3 d) 4

a) A secant b) A chord c) An arc d) A tangent

a) A secant b) A tangent c) A chord d) A diameter

19. A tangent to a circle intersects the circle is
(a) one point only (b) Two points (c) No point (d) Three points

20. A secant of a circle intersects the circle in
(a) only one point (b) Two points (c) Three points (d) No point

Key answers:

1-a 2-d 3-b 4-b 5-b 6-d 7-c 8-b 9-b 10-a
11-b 12-a 13-c 14-b 15-a 16-a 17-a 18-b 19-a 20-b

CHAPTER -06 COORDINATE GEOMETRY

Multiple choice questions

1. The distance of a point from X- axis is ----------

   a) Origin b) ordinate c) abscissa d) parabola

2. Distance between the origin and a point (x,y) is ---------

   a) $x^2 + y^2$ b) $\sqrt{x^2 + y^2}$ c) $\sqrt{x^2 - y^2}$ d) $x^2 - y^2$

3. The distance of the co-ordinate p(6,8) from origin is --------

   a) 10 units b) 14 units c) 100 units d) 28 units

4. The co-ordinates of a point lying on y-axis are of the form -------

   a) (x,y) b) (x,0) c) (0,y) d) (y,0)

   a) 2 b) 3 c) 4 d) 5

6. The distance of the point p(2,3) from x-axis is ---------

   a) 2 b) 3 c) 1 d) 5

   a) 2a = b b) a = -b c) a = 2b d) a = b

   a) (-2,4) b) (2,-4) c) (0,0) d) (-2,-4)

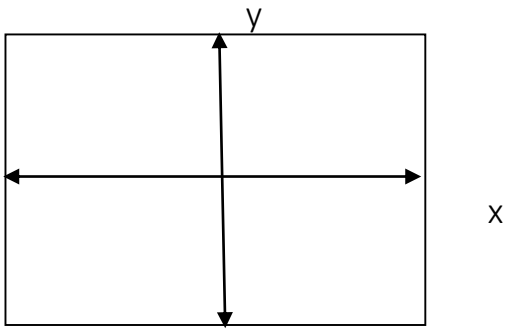
9. The distance between the point A(0,6) and B(0,-2) is ----------

   a) 6 b) 8 c) 4 d) 2

10. If the point C(k,4) divides the join of point A(2,6) and B(5,1) in the ratio 2:3, then the value of k is ----------

    a) 16 b) $\frac{28}{5}$ c) $\frac{16}{5}$ d) $\frac{8}{5}$

11. In the given graph the co-ordinate of point 'A' is ----------



a) (-1,0) b) (1,2) c) (2,1) d) (2,0)

12. The co-ordinate of origin is ---------

(a) (1,1) b) (0,0) c) (0,1) d) (1,0)

13. If the distance between p(x,y) from origin is 10 units then co-ordinates of p is

a) (6,4) b) (8,2) c) (5,5) d) (10,10)

14. The point on x-axis which is equidistant from points A(-1,0) and B(5,0) is

a) (0,2) b) (2,0) c) (3,0) d) (0,3)

15. The perimeter of the triangle with vertices (0,4), (0,0) and (3,0) is

a) (7+√5) b) 5 c) 10 d)12

16. The area of ΔABC with vertices A(a,0), O(0,0) and B (0,b) in square units is

a) Ab b) $\frac{1}{2}ab$ c) $\frac{1}{2}a^2b^2$ d)) $\frac{1}{2}b^2$

a) K =4 b) k =6 c) k = $\frac{-3}{2}$ d) k = $\frac{11}{4}$

18. The distance of point p(3,4) from origin is

a) 3 units b) 4 units c) 5 units d) 7 units

19. 8 is a point on x-axis at a distance of 3 units from y-axis to its left. The co-ordinates of p are

a) (3,0) b) (0,3) c) (-3, 0) d) (0,-3)

(a) $\sqrt{a^2+b^2}$ b) $2\sqrt{a^2+b^2}$ c) $\frac{2}{3}\sqrt{a^2+b^2}$ d) a^2+b^2

21. In which quadrant does the point (2,-5) lie

a) 1st b) 2nd c) 3rd d) 4th

a) x =5 b) x = -5 c) y = -5 d) y = -5x

Answers:

1. c	6. b	11.	16. a	21.d
2. a	7. a	12.b	17. b	22.
3. a	8. c	13. d	18. c	
4. c	9. b	14. a	19. c	
5. d	10.c	15. d	20. b	

CHAPTER -07 QUADRATIC EQUATIONS

Multiple Choice Questions:

1. The degree of a quadratic equations is
   (a) 1 (b) 2 (c) 3 (d) 4
2. The standard form of quadratic equation is
   (a) $ax^2 + bx + c = 0$ (b) $ax + c = 0$
   (c) $ax^3 + bx^2 + c = 0$ (d) $ax^4 + bx^3 + cx^2 + dx + c= 0$
3. The standard form of pure quadratic equation is
   (a) $ax^2 + bx + c = 0$ (b) $ax^2 + c = 0$
   (c) $ax^3 + bx^2 + cx = 0$ (d) $ax^4 + bx^3 + cx^2 + dx + c = 0$
4. An quadratic equation has only
   (a) 1 root (b) 2 roots (c) 3 roots (d) 4 roots
5. The roots of the quadratic equation $3x^2 – 6x = 0$ are
   (a) (0, 2) (b) (3, 6) (c) (0, –2) (d) (0, 6)
6. The consecutive even integers are
   (a) (2x)(x + 2) (b) (x)(x + 2) (c) (x)(x + 1) (d) (x)(x – 1)
7. Two consecutive positive integers differ by
   (a) 2 (b) 1 (c) 3 (d) 4
8. The sum of the squares of two consecutive natural numbers is 25 represent this statement in the form of a quadratic equation.
   (a) $x^2 + (x + 1)^2 = 25$ (b) $x^2 – (x – 1)^2 = 25$
   (c) $(x + 1) – x^2 = 25$ (d) $x^2 + (x + 1)^2 + 25 = 0$
9. The discriminant of the quadratic equation $ax^2 + bx + c = 0$ is
   (a) $\Delta = b^2 + 4ac$ (b) $\Delta = b^2 – 4ac$ (c) $\Delta = 4abc$ (d) $\Delta = b^2 \times 4ac$
10. The nature of the roots of the quadratic equation $2x^2–4x +3=0$ are
    (a) real and distinct (b) real and equal
    (c) no real roots (d) imaginary
11. The quadratic equation whose roots are 2 and 3 is
    (a) $x^2 + 5x + 6 = 0$ (b) $x^2 – 5x + 6 = 0$
    (c) $x^2 – 5x – 6 = 0$ (d) $x^2 + 5x – 6 = 0$
12. The sum of the roots of the equation $2x^2 – 8 = 0$ is
    (a) 2 (b) 4 (c) – 4 (d) 0
13. The product of the equation $3x^2 = 9x$ is
    (a) 0 (b) – 3 (c) 2 (d) 9
14. If $l^2 = r^2 + d^2$ then the value of d is equal to
    (a) $d=\pm\sqrt{r2 - l2}$ (b) $d=\pm\sqrt{r2 + l2}$ (c) $d=\pm\sqrt{l2 - r2}$ (d) d = r + l
15. The name of the graph of y = 2x+3 is called

16. The name of the graph $y = mx^2 + c$ is called

Answers:

1-b	2-a	3-b	4-b	5-a	6-a	7-b	8-b	9-a
10-b	11-d	12-b	13-d	14-a	15-c	16-a		

CHAPTER -08 INTRODUCTION TO TRIGONOMETRY

Multiple Choice Questions:

1. The value of cos 0°. cos 1°. cos 2°. cos 3°... cos 89° cos 90° is
   (a) 1 (b) -1 (c) 0 (d) 12√2.
2. If x tan 45° sin 30° = cos 30° tan 30°, then x is equal to
   (a) √3 (b) 12 (c) 12√ (d) 1
3. If x and y are complementary angles, then
   (a) sin x = sin y (b) tan x = tan y (c) cos x = cos y (d) sec x = cosec y
4.
   (a) 90° (b) 60° (c) 30° (d) 0°
5. If A, B and C are interior angles of a ΔABC then $\cos(\frac{B+C}{2})$ is equal to
   (a) $\sin \frac{A}{2}$ (b) $-\sin \frac{A}{2}$
   (c) $\cos \frac{A}{2}$ (d) $-\cos \frac{A}{2}$
6. If A and (2A – 45°) are acute angles such that sin A = cos (2A – 45°), then tan A is equal to
   (a) 0 (b) 1/√3 (c) 1 (d) √3
7. If y sin 45° cos 45° = $\tan^2 45°$ – cos2 30°, then y = ...
   (a) $-\frac{1}{2}$ (b) $\frac{1}{2}$ (c) -2 (d) 2
8. If sin θ + $\sin^2$ θ = 1, then $\cos^2$ θ + $\cos^4$ θ = ..
   (a) -1 (b) 0 (c) 1 (d) 2
9. $5\tan^2 A - 5\sec^2 A + 1$ is equal to
   (a) 6 (b) -5 (c) 1 (d) -4
10. If sec A + tan A = x, then sec A =
    (a) $\frac{x^2-1}{x}$ (b) $\frac{x^2-1}{2x}$
    (c) $\frac{x^2+1}{x}$ (d) $\frac{x^2+1}{2x}$

11. If sec A + tan A = x, then tan A =

(a) $\frac{x^2-1}{x}$ (b) $\frac{x^2-1}{2x}$

(c) $\frac{x^2+1}{x}$ (d) $\frac{x^2+1}{2x}$

12. $\frac{1-\cos A}{\sin A}$ is equal to

(a) $\frac{\sin A}{1-\cos A}$ (b) $\frac{\sin A}{1+\cos A}$

(c) $\frac{\cos A}{1-\cos A}$ (d) $\frac{\cos A}{1+\cos A}$

13. If x = a cos 0 and y = b sin 0, then b2x2 + a^2y^2 =

(a) ab (b) $b^2 + a^2$ (c) a^2b^2 (d) a^4b^4

14. What is the maximum value of 1cscA?

(a) 0 (b) 1 (c) $\frac{1}{2}$ (d) 2

15. What is the minimum value of sin A, 0 ≤ A ≤ 90°

(a) -1 (b) 0 (c) 1 (d) $\frac{1}{2}$

16. What is the minimum value of cos θ, 0 ≤ θ ≤ 90°

(a) -1 (b) 0 (c) 1 (d) $\frac{1}{2}$

17. Given that sin θ = $\frac{a}{b}$, then tan θ =

(a) $\frac{b}{\sqrt{b^2-a^2}}$ (b) $\frac{\sqrt{b^2-a^2}}{b}$

(c) $\frac{a}{\sqrt{b^2-a^2}}$ (d) $\frac{\sqrt{b^2-a^2}}{a}$

18. If cos 9A = sin A and 9A < 90°, then the value of tan 5A is

(a) 0 (b) 1 (c) $\frac{1}{\sqrt{3}}$ (d) √3

19. If in ΔABC, ∠C = 90°, then sin (A + B) =

(a) 0 (b) ½ (c) $\frac{1}{\sqrt{3}}$ (d) 1

20. If sin A – cos A = 0, then the value of $\sin^4 A + \cos^4 A$ is

(a) 2 (b) 1 (c) 34 (d) 12

Key answer:

1.c	2.d	3.d	4.d	5.a	6.c	7.b	8.c	9.d	10.d	11.b
12.b	13.c	14.b	15.b	16.b	17.c	18.b	19.d	20.d		

CHAPTER -09 SOME APPLICATIONS OF TRIGONOMETRY

Multiple Choice Questions:

1. The angle of elevation of the top of a tower from a point at a distance of 100 m from the base of the tower is found to be 45° then height of the tower is

(a) 50 m (b) 100 m (c) 50√2 m (d) 50√3 m

2. Find the angle of elevation of the top of a tower, whose height is 100 m, at a point whose distance from the base of the tower is 100 m.

(a) 30° (b) 60° (c) 45° (d) 90°

3. The angle of elevation of the top of tree from a point at a distance of 200m from its base is 60° the height of the tree is

(a) 50 √3 m (b) 100 √3 m (c) 200 √3 m (d) 200/√3m

4. Find the length of the shadow of 10 m high tree of the angle of elevation of the sun is 30°

(a) 10 m (b) 10/√3 m (c) 10√3 m (d) 20 m

5. If the shadow of 10 m high tree is 10√3 m then find the angle of elevation of the sun

(a) 60° (b) 90° (c) 45° (d) 30°

6. The ratio of the length of a tree and its shadow is 1:1/√3, The angle of the sun's elevation is

(a) 30° (b) 45° (c) 60° (d) 90°

7. The ratio of the length of a rod to its shadow is 1: 3. The angle of elevation of the sun is

(a) 30° (b) 60° (c) 45° (d) 90°

8. If the angle of elevation of the sun is 45°, then find the length of the shadow of a tower whose height is 'h' m

(a) h/2 m (b) h m (c) 2h m (d) h √3 m

9. The angle of elevation of the sun is 45°. Then, the length of the shadow of a 12 m high tree is

(a) 6 √3 m (b) 12 √3 m (c) 12m /√3 (d) 12 m

10. From a bridge, 25 m high, the angle of depression of a boat is 45°. Find the horizontal distance of the boat from the bridge.

(a) 25 m (b) 25/2m (c) 50 m (d) 25√3 m

Answers

1-b 2-c 3-c 4-d 5-c 6-c 7-a 8-b 9-d 10-a

CHAPTER -10 STATISTICS

Multiple Choice Questions

1. The most frequently used measure of central tendency is

(a) Mean (b) Mode (c) Median (d) None of these

2. The item value which occurs most frequently is called

(a) Mean (b) Median (c) Mode (d) None of these

3. The mean of first ten odd natural number is

(a) 5 (b) 10 (c) 20 (d) 19

4. The mean of first n natural number is

(a) $\frac{n+1}{2}$ (b) $\frac{n(n+1)}{2}$ c) $\frac{n(n-1)}{2}$ (d) n^2

5. The class mark of the class interval 20 – 29 is

(a) 20 (b) 29 (c) 25 (d) 24.5

6. In the distribution, the frequency of the class 0 –5 is

(a) 1 (b) 2 (c) 3 (d) 4

7. The median of the following series is 520, 20, 340, 190, 35, 800, 1210, 50, 80

(a) 1210 (b) 520 (c) 190 (d) 80

8. If the mean of 5, 7, 9, x is 9 then the value of x is

(a) 11 (b) 15 (c) 18 (d) 16

9. The mode of the distribution 3, 5, 7, 4, 2, 1, 4, 3, 4 is

(a) 7 (b) 4 (c) 3 (d) 1

10. If the median of the following data arranged in ascending order is 18, then the value of x in 8, 11, 12, 16, 16 + x, 20, 25, 30 is

(a) 1 (b) 2 (c) 3 (d) 4

11. The median of first 10 odd numbers is

(a) 10 (b) 8 (c) 9 (d) 11

12. The mean of five numbers is 18. If one number is removed, then the mean becomes 16. The removed number is

(a) 22 (b) 24 (c) 25 (d) 26

13. The mean of 13 numbers is 24. If 3 is added to each of the numbers. Then, the new mean is

(a) 21 (b) 24 (c) 27 (d) 30

14. The mean of 1, 2, 3, 4, 5x is

(a) x + 1 (b) 5 (c) 5x + 1 (d) x + 2

15. IF the mean of 10 observations is 15, then their algebraic sum is

(a) 150 (b) 15 (c) 1.5 (d) 1500

16. The mean of 10 numbers is 16. If one number 36 of these is changed to 26, then new mean is

(a) 15 (b) 16 (c) 10 (d) 26

17. The mode of a frequency distribution can be determined graphically from.

(a) histogram (b) frequency polygon (c) frequency curve (d) ogive

18. If the mode of the following distribution is 2.8, then find the value of x. 2.5, 2.5, 2.1, 2.7, 2.8, 2.5, x, 2.8, 2.8, 2.7

(a) 2.7 (b) 2.5 (c) 2.8 (d) 2.1

19. Which of the following is not a measure of central tendency.

(a) Mean (b) Median (c) Mode (d) Range

20. Relationship among mean, median and mode is

(a) 3 Median = 2 Mode + Mean (b) 3 Median = 2 Mean + Mode

(c) Mode = 2 Mean – Median (d) Mode = 3 Mean – 2 Median

Key answer:

1-a	2-c	3-b	4-a	5-d
6-d	7-c	8-b	9-b	10-d
11-a	12-a	13-c	14-d	15-a
16-a	17-a	18-c	19-d	20-b

CHAPTER -11 SURFACE AREA AND VOLUMES

Multiple Choice Questions.

1. A cylindrical pencil sharpened at one edge is the combination of
   (a) cone and cylinder (b) Frustum of a cone and cylinder.
   (c) A hemisphere and a cylinder (d) two cylinders

2. The curved surface area of a solid hemisphere of radius r is
   (a) $4\pi r^2$ (b) $2\pi r^2$ (c) $4/3\pi r^3$ (d) $3\pi r^2$

3. A shuttle cock used for playing badminton has the shape of a combination of
   (a) a cone and a sphere (b) frustum of a cone and a hemisphere
   (c) a cylinder and a hemisphere (d) a cone and a cylinder.

4. The ratio of the radii of two spheres is 4 : 5. Find the ratio of their total surface areas is.
   (a) 5 : 4 (b) 4 : 5 (c) 16 : 25 (d) 25 : 16

5. If the volume of a cube is 1331 cm^3 the length of its edge is equal to
   (a) 12 (b) 11 (c) 15 (d) 13

6. If the diameter of a sphere is d, then its volume is
   (a) $\frac{1}{3}\pi d^3$ (b) $\frac{1}{24}\pi d^3$ (c) $\frac{4}{3}\pi d^3$ (d) $\frac{1}{6}\pi d^3$

7. The ratio of the volume of a cube to that of the sphere which will exactly fit inside the cube is
   (a) 6 : π (b) 4 : π (c) 2 : π (d) 3 : π

8. A cylinder, a cone and hemisphere are of equal base and have the same height the ratio of their volumes is
   (a) 3 : 2 : 1 (b) 2 : 3 : 1 (c) 3 : 1 : 2 (d) 1 : 2 : 3

9. A solid sphere of radius r is melted and cast into the shape of a solid cone of height r. The radius of the base of the cone is.
   (a) r (b) 3r (c) 4r (d) 2r

9. A solid sphere of radius r is melted and cast into the shape of a solid cone of height r. The radius of the base of the cone is.
   (a) r (b) 3r (c) 4r (d) 2r

   (a) sphere (b) cylinder (c) hemisphere (d) cone.

11. A hollow cylinder has only

(a) curved surface area (b) total surface area (c) volume (d) Perimeter

12. The formula to find the volume of the cylinder.

(a) $\pi r^2 h$ (b) $2\pi r^2 h$ (c) $2\pi r (r + l)$ (d) πrl

(a) cylinder (b) sphere (c) cone (d) frustum

14. The surface area of a sphere is

(a) $4\pi r^2$ (b) $4\pi r^3$ (c) πrl (d) $2\pi r (r + l)$

15. The CSA of sphere is

(a) $4\pi r^2$ (b) $3\pi r^2$ (c) $2\pi r^2$ (d) πr^2

16. The surface areas of two sphere are is the ratio 1 : 4 then the ratio of their volumes 1 : 4 then the ratio of their volumes 1 : 4 the ratio of their volumes is

(a) 1 : 4 (b) 1 : 8 (c) 1 : 16 (d) 1 : 64

17. The base radii if two circular cones of the same height are in the ratio 3 : 5. Find the ratio of their volumes.

(a) 3 : 5 (b) 5 : 3 (c) 9 : 25 (d) 27 : 125

18. The volume of a cone of height 4 cm is 168π cm^3 the radius of the cone is

(a) 6 cm (b) 8 cm (c) 10 cm (d) 12 cm

19. How many lead balls of radius 2 cm can be made from a ball of radius 4 cm

(a) 1 (b) 2 (c) 4 (d) 8

Answers:

1. (a)	2. (b)	3.(b)	4.(c)
5. (b)	6.(d)	7.(a)	8.(c)
9.(d)	10.(b)	11.(a)	12.(a)
13.(b)	14.(a)	15.(a)	16.(b)
17.(c)	18.(a)	19.(d)	