MATHEMATICS

BITS TESTS

Polytechnic SSC APRJC

TOTAL 14 CHAPTERS

QUESTIONS

FILL IN THE BLANKS AND OBJECTIVE

FILL IN THE BLANKS

TEST NO	TEST 1	TEST 2	TEST 3	TEST 4	TEST 5	TEST 6	TEST 7
N0 OF QUESTIONS	70	70	70	70	70	70	70
MARKS							

GRAND BIT TESTS

TEST NO	TEST 8	TEST 9
N0 OF QUESTIONS	150	150
MARKS		

OBJECTIVE BIT TESTS

TEST NO	TEST 10	TEST 11	TEST 12
N0 OF QUESTIONS	75	75	75
MARKS			

OBJECTIVE GRAND TESTS

TEST NO	TEST 13
N0 OF QUESTIONS	100
MARKS	

K.SREENIVASA RAJU 9441637668

TEST 1

1. The set of rational and irrational numbers together are called _____
2. Every composite number can be expressed as a product of_____
3. If p is a prime and a is a positive integer and p divides a^2, then p divides_____
4. If x = p/q is a rational number which has a terminating decimal expansion, then prime factorization of q is of the form _____
5. 7/40 is a _____ decimal.
6. An object belonging to a set is known as its _____
7 A set which does not contain any element is called a _____ set
8. If it is possible to count the no. of elements of the set, it is called_____
9. The number of elements in a set is called the _____ of the set
10. The universal set is denoted by _____
11. General Form of a quadratic polynomial in x is _____
12. Polynomial of degree 1 is called _____
13. Polynomial of degree 2 is called _____
    Polynomial of degree 3 is called _____
14. If a polynomial has 2 terms, it is called _____
    If a polynomial has 3 terms, it is called _____
15. The x co-ordinates of the points where the graph y=p(x) intersects the X axis are called _____ of p(x).
16. General form of a linear equation in two variables x and y is ____
17. The value of k for which a pair of linear equations 3x+4y+2=0 and 9x+12y+k=0 represent coincident lines is ____
18. 2x-5y=17, 4x-10y=8 equations are ____ type of equations
19. The pair of equations a1x+b1y+c1=0, a2x+b2y+c2=0 has a unique solution, then ____
20. The graph of a pair of linear equations in 2 variables is represented by____
21. Standard form of a quadratic equation in variable x is ____
22. The roots of a quadratic equation $ax^2+bx+c = 0$ are given by the formula ____
23. Discriminate of quadratic equation $ax^2+bx+c = 0$ is ____
24. The common roots of $2x^2+x-6=0$ and $x^2-3x-10 = 0$ is ____
25. The discriminant of $x^2-4x+5=0$ is ____
26. Common ratio of 2, $\sqrt{8}$, 4 . . . is ____
27. If a, b, c are in AP then 2b = ____
28. Common difference of an AP 3; If 2 is added to every term of the progression, then the common difference of new AP is ____
29. 1, -2, 4, -8 . . . is ____ progression
30. The nth term of GP is ____
31. The equation of the line parallel to y-axis and intersecting x-axis at (3,0) is ____
32. The distance between two points (x1,y1) and (x2,y2) is ____
33. The distance of P(x,y) from the origin is ____
34. The coordinates of the centre of the circle if the ends of the diameter are (2, -5) and (-2, 9) ____
35. The slope of a ladder making an angle 60° with the floor is ____

K.SREENIVASA RAJU 9441637668

36. If a line divides any two sides of a triangle in the same ration, then the line is _____ to the third side

37. The ratio of areas of two similar triangles is equal to the ratio of the _____ of their corresponding sides.

38. In ΔABC, If $AB^2 + BC^2 = AC^2$ then the right angle is at the vertex _____

39 A polygon in which all sides and angles are equal is called_____

40. The diagonal of a square is 6cm. Find its side. _____

41. The common point of a tangent to a circle and the circle is called ____

42. A line intersecting a circle in two points is called a ____

43. A tangent to a circle intersects it in ____ points.

44. A circle can have ____ parallel tangents at the most.

45. We can draw ____ tangents to a given circle

46. The ratio between lateral surface area and total surface are of cube is……..

47. The area of the base of a cylinder is 616 sq. cm then its radius is ____

48. If the base radius of a right circular cylinder is 14cm and its height is 21 cm then its curved surface area is ___

49. LSA or CSA of cuboid ____

50. Total surface area (TSA) of cuboid ____

51. A man goes to east and then to south. The trigonometric ratio involved to find the distance travelled from the starting point is ____

52. If $\sec\theta + \tan\theta = 1/2$ then $\sec\theta - \tan\theta$ = ____

53. $\cos 0° \cdot \cos 1° \cdot \cos 2° \ldots \cos 180°$ = ____

54. If $\cos\theta = 4/5$ then $\sin\theta$ ____

55. $\cos 23° - \sin 67° / \tan 26° \cdot \tan 64°$ = ___

56. A tower of height 100m casts shadow of length 100 √3m then what is the angle of elevation of the sun at that time ____

57. If the line of sight is above the horizontal line, then angle between the line of sight and the horizontal line is called ____

58. If the line of sight is below the horizontal line, then the angle between the line of sight and horizontal line is called ____

59. The length of the shadow of a man is equal to the height of man. The angle of elevation is……..

60. If we move away from the object, the angle of elevation will ____

61. The theoretical probability of an event E is defined as P(E) = ____

62. The probability of a sure event is ____

63. The probability of an impossible event is ____

64. The probability of an event is always in between ____ and ____

65. An event having only one outcome is called ____

66. Class mark of the class 1-10 is _____

67. If assumed mean is 'a' then the mean = _____

68. If Mode of the data 6, 3, 5, 6, 7, 5, 8, 7, 6, 2k+1, 9, 7, 13 is 7.
Then the value of k is _____

69 The measure of central tendency which take into account all the terms in data is _____

70. The class with highest frequency is called _____

K.SREENIVASA RAJU **9441637668**

TEST 1

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46			
22		47			
23		48			
24		49			
25		50			

K.SREENIVASA RAJU 9441637668

TEST 2

1. 17/18 is a _____ decimal.
2. Product of the smallest power of each common prime factors in the given numbers is called their _____
3. Product of the greatest power of each prime factors in the given numbers is their _____
4. Decimal form of 3/8 is _____
5. Prime factorization of 156 = _____
6. n (AUB) = _____
7. Father of the set theory is _____
8. Every set is subset of _____
9. n(Φ) = _____
10. If every element of A is also an element of B, then we can say _____
11. A quadratic polynomial can have at most _____ zero values
12. A cubic polynomial can have at most _____ zeroes.
13. Sum of the zeroes of a quadratic polynomial $ax^2+bx+c=0$ is _____
14. Product of the zeroes of a quadratic polynomial $ax^2 + bx+c=0$ is _____
15. If a polynomial has only one term, it is known as _____
16. If the pair of equations a1x+b1y+c1=0, a2x+b2y+c2=0 has infinitely Many solutions then ____
17. If there is no solution for the pair of equations a1x+b1y+c1=0, a2x+b2y+c2=0, then ____
18. The equation x - 4y= 5 has ____
19. The value of x which satisfies the equation 2x - (4 - x) = 5 - x is ____
20 In general, an equation of the form $ax + by + c = 0$ where ____ are real numbers
21. The product of two consecutive numbers is 56. Then quadratic equation formed by this is ____
22. If $b^2-4ac>0$, then the equation $ax^2+bx+c = 0$ has ____ roots.
23. If $b^2-4ac=0$, then $ax^2+bx+c = 0$ has ____ roots.
24. If $b^2-4ac<0$, then $ax^2+bx+c = 0$ has ____ roots.
25. The nature of the roots of the equation $4x^2+5x+1=0$ is ____
26. The number of two digit numbers which are divisible by 3 is ____
27. The sum of first 20 odd numbers is ____
28. Common difference of AP: 2, 5/2, 3, 7/2 . . . is ____
29. nth term of AP with first term a and common difference d is an = ____
30. The sum of the first n terms of an AP is given by Sn = ____
31. The distance between origin to the point (-4, -5) is ____
32. The centroid of the triangle whose vertices are (3, -5), (-7, 4), (10, -2) is____
33. The distance between (x1, y1) and (x2, y2) on a line parallel to Y-Axis is____
34. The distance between (x1, y1) and (x2, y2) on a line parallel to X-Axis is____
35. Heron's formula for Area of a triangle Is ____
36. Examples for the shapes which are always similar _____
37. Reduced and enlarged photographs of an object are _____
38. All equilateral triangles are _____ to each other.

K.SREENIVASA RAJU 9441637668

39. Basic proportionality theorem is also known as _____
40. ΔABC and ΔPQR are similar, then AB:PQ = _____
41. Tangents to a circle at the end points of a diameter are ____
42. The angle between the tangent at any point of a circle and the radius through the point of contact is ____
43. The word 'Tangent' comes from the ____word
44. 'Tangere' means ____
45. 'Tangere' word was introduced by ____
46. Volume of cuboid ____
47. LSA or CSA of cube ____
48. TSA of a cube ____
49. Volume of a cube with side 'a' units __
50. LSA or CSA of Right circular cylinder ____
51. If A is an acute angle, sin θ = cos θ then θ = ____
52. Side adjacent to angle A / hypotenuse = ____
53. 1 / sin θ = ____
54. 1/ cos θ = ____
55. 1 / tan θ = ____
56. Draw an angle of depression ……..
57. If AB = 4cm and AC = 8cm then the angle of elevation of A as observed from C is____
58. The ratio of the length of a pole and its shadow is √3:1 then the angle of elevation of the sun is ____
59. If the angle of elevation of a tower from a distance of 50m from its foot is 60°, then the height fo the tower ____
60. If the height and length of the shadow of a stick is same, then the angle of elevation of the sun is ____
61. The sum of the probabilities of all the elementary events of an experiment is ____
62. If E and $\bar{E}$ are complementary events, P(E) + P($\bar{E}$) = ____
63. The sample space of a random experiment is called ____ event
64. The set of total mutually exclusive and exhaustive events of a random experiment is called ____
65. If P(E)=0.05 then the probability of 'Not E' in percentage is ____
66. Mean of n observation x1, x2, x3 . . . xn with frequencies f1, f2, f3, . . . fn is _____
67. Formula for Mean in step deviation method is _____
68. Mode of a grouped data _____
69. Median of a grouped data _____
70. The AM of 30 students is 42. Among them, two got zero marks then AM of remaining students ___.

K.SREENIVASA RAJU **9441637668**

TEST 2

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46			
22		47			
23		48			
24		49			
25		50			

K.SREENIVASA RAJU 9441637668

TEST 3

1. Numbers cannot be written in the form of p/q where p, q belongs to Z are called ___
2. The sum of a rational and Irrational numbers is _____
3. If p, q are primes, $\sqrt{p}+\sqrt{q}$ is _____
4. If $a^n = x$ then n = _____
5. If $\log_a x = n$ then x = _____
6. If A ⊂ B , then A U B = _____
7. If A ⊂ B , A ∩ B = _____
8. If A ⊂ B , A – B = _____
9. If A∩B= ϕ , then A, B are _____ sets.
10. The set which consists of all the elements of A and B is _____
11. If α, β, γ are the zeroes of the cubic polynomial $ax^3+bx^2+cx+d=0$, then α+β+γ = __
12. If α, β, γ are zeroes of the cubic polynomial $ax^3+bx^2+cx+d=0$, then αβ+βγ+γα = _____, and αβγ = _____
13. A quadratic polynomial whose zeroes are α and β is _____
14. The zeroes of the quadratic polynomial $4x^2-12x+9$ are _____
15. The highiest power of x in p(x) is called the _____ of p(x)
16. If the equations a1x+b1y+c1=0, a2x+b2y+c2=0 are consistent, then ____
17. If 5x+ky+8=0 and 10x+15y+12=0 has no solution, then k = ____
18 .For what value of 'k', the pair of equation $3x + 4y + 2 = 0$ and $9x + 12y + k = 0$ represent coincident lines_____
19. 5 pencils and 7 pens together cost Rs 50, whereas 7 pencils and 5 pens together cost Rs 46 write the equation _____
20. The larger of two supplementary angles exceeds the smaller by 18°. Find the angles_____
21. The nature of the roots of the equation $9x^2+24x+16=0$ is ____
22. The nature of the roots of the equation $5x^2+2x+8=0$ is ____
23. The sum of a number and its reciprocal is 50/7, then the number is ____
24. If $x^2-2x+1=0$ then x+1/x = ____
25. The roots of the quadratic equation (x-1/3)2=9 are ____
26. If 'l' is the last term of finite AP, the sum of all terms of the AP is S = ____
27. A list of numbers in which each term is obtained by multiplying preceeding term with a fixed number is called ____
28 If a, b, c are in GP then b^2 = ____
29. If the nth term of an AP is 2n+5, then common difference is ____
30. The sum of the first n natural numbers or Σn = ____
31. The coordinates of the point P(x, y) which divides the line segment joining A(x1, y1) and B(x2, y2) internally in the ratio m1:m2 are _____
32. The Mid point of the line segment joining the points P(x1, y1) and Q(x2, y2) is ____
33. The Mid point of the line joining the points $(\log_2 8, \log_4 16)$ and (sin 90°,cos 0°) is ____
34. The centroid of the triangle whose vertices are (x1, y1), (x2, y2) and (x3, y3) is ____
35. The point that divides each Median in the ratio 2:1 is ____ of a triangle.
36. If the ratio of areas of two similar triangles is 1:2, the ratio of their altitudes ____
37. If ΔABC ~ ΔPQR, AB=3.6 cm, PQ=2.4 cm, AC=8.1 cm, PR =_____

K.SREENIVASA RAJU 9441637668

38. In ΔABC, $a^2=b^2+c^2$ then right angle at the vertex _____
39. The ratio of corresponding sides of two similar triangles is 3:4, then the ratio of their areas is _____
40. The Height (altitude) of an equilateral triangle of side 'a' is_____
41. The lengths of tangents drawn from an external point to a circle are____
42. No. of tangents to a circle through a point lying outside the circle is____
43. Two concentric circles of radii 5cm and 3 cm are drawn. The length of the chord of larger circle touches to small circle is ____
44. If tangents PA and PB from a point P to a circle with centre O are inclined to each other at an angle of 80°, then ∟POA ____
45. The length of the chord making an angle 600 at the centre of the circle having radius 6 cm is ____
46. TSA of Right circular cylinder ____Volume of Right circular cylinder ____
47. LSA or CSA of Right circular cone is ____
48. TSA of Right circular cone is ____
49. Volume of Right circular cone is ____
50. LSA of Sphere ____
51. The value of sin A or cos A is always lies between ____
52. sin (90°-A) = ____
53. cos (90°-A) = ____
54. tan (90°-A) = ____
55. cosec (90°-A) = ____
56. If The sun's angle of elevation is 30°, then a pole of height 5m will cast a shadow of length ____
57. If a man of 6m height casts a shadow $2\sqrt{3}$ m. long on the ground, then the angle of elevation of the sun is ____
58. A man goes to east and then to south. The trigonometric ration involved to find the distance travelled from the starting point is ____
59. The length of the shadow of a pole is $\sqrt{3}$ times the height of it, then the angle of elevation of sun is ____
60. What is the angle of elevation____
61.  **From the figure, the probability to get yellow ball is _**
62. A Game of chance consists of spinning an arrow which comes to rest at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes. The possibility that the arrow will point at a number greater than 2 is ____
63. Among the numbers 1 to 15, the probability of choosing a number which is a multiple of 4 is ____
64. The probability of getting a king or Queen card from the play cards of1 deck is _
65. The event which will not occur on any account is called a ____
66. In the Mode formula, h indicates _____
67. From the graph the possible measure of central tendency to be found is _____
68. From the given data 2,6,8,4,6,3,7,8,9 the value of Median is _____
69. The average of 13 scores is 8, If one of the scores 20 is deleted from them, the average score of remaining is _____
70. In the Mode formula, f0 represents _____

K.SREENIVASA RAJU **9441637668**

TEST 3

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46			
22		47			
23		48			
24		49			
25		50			

K.SREENIVASA RAJU 9441637668

TEST 4

1. The logarithmeic form of $8^x = 2$ is _____
2. The p/q form of 0.875 = _____
3. 3/4 lies between the integers _____
4. Example for Irrational numbers _____
5. The decimal form of $\frac{23}{2^3 x\ 5^2}$ is _____
6. The set of all elements which are common to A and B is _____
7. If A and B are disjoint sets, then A ∩ B = _____
8. A ∩ ϕ= _____
9. A U ϕ = _____
10. AUA = _____
11. Degree of the polynomia $y^2 - \frac{y}{2} + \sqrt{2}$ is _____
12. General form of a polynomial of n th degree is _____
13. The degree of a constant term is _____.
    zero value of the polynomial ax+b is _____
14. The zero of the polynomial 2x-3 is _____
15. The graph $y=mx^2$ is called _____
16. Two angles are complementary. The larger angle is 3° less than twice the measure of the smaller angle. Find the measure of each angle _____
17. If 3x+4y+2=0 and kx+20y+10=0 represent coincident lines, the value of k = ____
18. If 2x-ky+3=0, 4x+6y-5=0 represent parallel lines the value of k = ____
19 The sum of a two digit number and the number obtained by reversing the digits is 66. If the digits of the number differ by 2, find the number_____
20. The value of x which satisfies the equation 2x-(4-x)=5-x is ____
21. If $ax^2+bx+c = 0$ has equal roots, then ____
22. The quadratic equation whose one root is 2-√3 is ___
23. The roots of a quadratic equation (√2x+3)(5x-√3)=0 are ____
24. If $k2x^2-8kx+16=0$ has equal roots, then k = ____
25. The roots of the Q.E. (3x+4)2-49=0 are ____
26. The arithmetic mean of 3 and 15 if ____
27. ___th term of the AP 5, 2, -1 . . . is -22
28. If x, y, z are in AP then x+z = ____
29. If -2/7, x, -7/2 are in GP, then x = ____
30. The sum of 3 terms of an AP is 27, then the middle term is ____
31. The area of the triangle formed by the points (x1, y1), (x2, y2) and (x3,y3) is ____ sq. units.
32. If a, b, c are three sides of ΔABC, then the value of 's' in Heron's formula is ____
33. Slope of the line joining the points (x1, y1), (x2, y2) is ____
34. If the ratio in which p divides A(x1, y1), B(x2, y2) is k:l then the coordinatesof p are ____
35. The point of intersection of the medians of a triangle is called ____
36. If ΔABC ~ ΔPQR, ∟A=60°, ∟B=70° then ∟R= _____
37. If ∟C=90° in ΔABC and a=3 cm, b=4 cm then c =
38. The diagonal of a square is _____ times to its side

K.SREENIVASA RAJU 9441637668

39. In ΔABC, the Points E and F are on the sides AB and AC respectively. If AE = 4cm, EB = 4.5cm, AF = 8cm, FC = 9cm then EF = _____

40. In ΔABC, D, E, F are Mid points of AB, BC, CA respectively. If ΔABC = 16 cm² then ΔDEF = _____ cm²

41. The angle in a semi circle is ___

42. A line which touches a circle at one point is called ____

43. The length of the tangent drawn to a circle with radius 'r' from a point which is 'd' cm away from the centre is ____

44. The angles in the same segment are ____

45. The length of a tangent drawn from a point 5 cm away from the centre of the circle of radius 3 cm is ____

46. LSA of Sphere ____

47. Volume of a sphere whose radius is r ____

48. CSA of a hemi sphere _____

49. Total surface area of a hemi sphere ____

50. Volume of a hemi sphere with radius r is _____

51. sec (90°-A) = ____

52. cot (90°-A) = ____

53. $\sin^2\theta + \cos^2\theta$ = ____

54. $\sec^2\theta - \tan^2\theta$ = ____

55. $\text{cosec}^2\theta - \cot^2\theta$ = ____

56. If the two poles of heights x m and y m, subtend angles of 30° and 60° respectively at the centre of the line joining their feet, then x:y = ____

57. If AB = 4cm and AC = 8cm then the angle of elevation of A as observed from C___

58. Angle of elevation of the top of a tower from a point is 60°, then the angle of depression of the point from the top of the tower is ____

59. If two tangents inclined at an angle of 60° are drawn to a circle of radius 3cm, then length of tangent is ____

60. The length of the string of a kite flying at 50m above the ground with the elevation of 60° is ____

61. If two or more events have an equal chance occurrence, they are called ____ events

62. In two or more events, if the occurance of each event prevents theevery other event, they are called _____

63. All the events are exhaustive events if their union is the ____

64. The definition of probability was given by the scientist ____

65. ____ wrote the first book on the games of chance

66. The Middle most value of data is called _____

67. For a Distribution with odd numbers (n) of observation the Median is___ th value.

68. For a distribuition with even number (n) of observations, the Median is___ th term.

69. Cumulative frequency is useful in finding _____

70. Class marks are useful in determining the _____

K.SREENIVASA RAJU **9441637668**

TEST 4

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46			
22		47			
23		48			
24		49			
25		50			

K.SREENIVASA RAJU 9441637668

TEST 5

1. The value of $\log_{10} 0.01$ _____
2. The expansion of log 10000 = _____
3. The short form of log 16 – 2 log 2 = _____
4. $\log_a 1$ = _____
5. Standard form of $2^6 \times 5^5$ is _____
6. A∩A = _____
7. A set is a _____ collection of objects
8. If A and B are disjoint sets n(AUB) = _____
9. Roster form of the set of natural numbers less than 6 _____
10. If A ⊂ B and B ⊂A then _____
11. The quadratic equation whose roots are 2 and -5 is _____
12. A If the sum of all coefficients of a polynomial is 0, then ____ is a factor to it.
13. Discriminant of $ax^2+bx+c=0$ is _____
14. Product of the roots of $\sqrt{3}\ x^2 + 9x + 6\sqrt{3} = 0$
15. If $\sqrt{3}$ and $-\sqrt{3}$ are the zeroes of a polynomial p(x), then p(x) =
16. x=3 is a line parallel to ____
17. y=5 is a line parallel to ____
18. The number of solutions to the pair of linear equations 11x-7y=6 and 4x+9y=8 is _
19. The number of solutions to the pair of linear equations 4x-2y+6=0 and 6x-3y+5=0 is ____
20. The number of solutions to the pair of linear equations 5x-2y-10=0 and 10x-4y-20=0 is ____
21. The minimum value of p for which $4x^2-2px+7=0$ has a real root is ____
22. A quadratic equation whose roots are k and 1/k is ____
23. The value of the roots of the equation $4x^2+4\sqrt{3}x+3=0$ are ____
24. b^2-4ac is called _____ of the Q.E $ax^2+bx+c = 0$ ($a\neq0$)
25. If x – 3/x = 2 then x = ____
26. In a series, an / an-1 is independent of n, it is ____ series.
27. The 10th term of the progression x, 4x/3, 5x/3, 2x . . . is ____
28. The first term of a GP is 50 and the 4th term is 1350 then 5th term is____
29. If -2/7, x, 16/7 are in AP, then x = ____
30. The German mathematician who found the sum of n terms of an AP is____
31. The points which divide a line segment into 3 equal parts are said to be____ of the line.
32. When the area of a triangle is zero, then the 3 points are said to be ____ points
33. If θ is the angle made by the line with x-axis, then slope of the line m = ____
34. Slope of the X axis is ____
35. Slope of the Y axis is ____
36. Give any two examples for similar figures___.
37. $\Delta ABC \sim \Delta DEF, = 3cm, EF = 4cm$ *and area of* $\Delta ABC = 54 sq.cm.$ *Determine a of* ΔDEF. _____
38. *The sum of the squares of the sides is equal to the sum of the square s of the* _____

K.SREENIVASA RAJU 9441637668

39. The Medians of two similar triangles are 3 cm and 5 cm. then the ratio of areas of the two triangles is _____

40. The horizontal distance from the foot of the ladder having height 25 m. touches the window at a height of 15 m is _____

41. The angle at the centre of the semi circle is ____

42. ABCD is a quadrilateral and a circle touches the sides of it at points P, Q, R, S respectively, then AB+CD = ____

43. From a point Q, the length of the tangent to a circle is 24 cm and the distance of Q from the centre is 25 cm, then Radius of the circle is ____

44. If AP and AQ are two tangents to a circle with centre 'o' so that ∟POQ = 110°, then ∟PAQ = ____

45. The parallelogram circumscribing a circle is a ____

46. CSA of Right prism ____

47. TSA of Right prism ____

48. Volume of Right prism ____

49. LSA of Right pyramid ____

50. TSA of Right pyramid ____

51. $\tan^2 50° - \sec^2 50° =$ ____

52. If $\sec\theta + \tan\theta = p$, then $\sec\theta - \tan\theta =$ ____

53. $\sin 18° / \cos 72° =$ ____

54. Multiplicative inverse of $\sin\theta =$ ____

55. Multiplicative inverse of $\sec\theta =$ ____

56. A man sitting on the top of a building of height 20m observes the angle m of depression of an object on the ground is 60°, then the distance between the foot of the building and the object is ____

57. The angle of depression of the top of a tower at a point 100m from the tower is 45°, then the height of the tower ____

58. A tower is 100 m hight. It's shadow is x m. shorter when the sun's angle of elevation is 45° than when it is 30, x = ____

59. The angle of elevation of the top of a tower from a point on the ground which is 30m away from the foot of the tower is 45° find the height of the tower.___

60. The height of the tower is 100m when the angle of elevation of the Sun is 30°.Find the length of shadow___

61. Probability of drawing out a red king from a deck of cards is ____

-62. Two dice are rolled. Then the probability of getting a sum which is an odd number greater than 8 is ____

63. Probability of getting a club card from a deck of cards is ____

64. If a coin is tossed, the probability of that a head turns up is ____

65. If a die is rolled, then the probability of getting an even number is ____

66. In finding Mean, if xi and fi are sufficiently small, then _____ method is an appropriate choice.

67. If xi and fi are numerically large, then _____ method is appropriate to find the mean.

68. The value among the observations which occurs most frequently is_____

69. is called as _____

70. In the method of step deviation, ui = _____

K.SREENIVASA RAJU **9441637668**

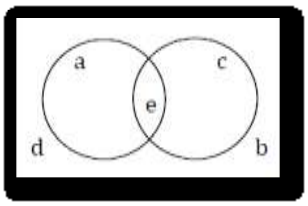
TEST 5

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46			
22		47			
23		48			
24		49			
25		50			

K.SREENIVASA RAJU 9441637668

TEST 6

1. Evaluate : $\log_4(1 + \text{Tan}^2 45°)^2$
2. Write the decimal form of the rational number $\frac{7}{20}$
3. What is the exponential form of $\log_2 8 = 3$
4. If 'x' and 'y' are two prime numbers then find their HCF
5. What is the HCF of any two consecutive even numbers ?
6. $A \subset B$, $n(A) = 5$, $n(B) = 8$ then find $n(A \cap B)$



7. Define a Set in one sentence ?
8. If $A = \{1, 2, 3\}$ and $\emptyset = \{\}$ find $A \cap \emptyset$
9. Find $n(A \cup B)$ from the figure.
10. Choose the correct answer satisfying the following conditions.

Statement (A) : G = { All the factors of 20} = {1, 2, 4, 5, 10, 20}

Statement (B):

F = { The multiples of 4 between 17 and 61 which are divisible by 7} = {7, 28, 56}

a. Both A and B are true b. A is true, B is false

c. A id false, B is true d. Both A and B are false .

11. What is the degree of zero polynomial ?
12. If $P(x) = 2x^3 - 5x^2 - 14x + 8$, then find P (1/ 2) .
13. Find the zeroes of the quadratic polynomial $t^2 - 25$.
14. If $P(x) = 5x^7 - \frac{6}{5}x^5 + \frac{7}{3}x - 6$, then find the co-efficient of x^5 and degree of P(x)
15. If α, β, γ are the zeroes of the polynomial $ax^3 + bx^2 + cx + d$, which of the following matching is correct ?

1. $\alpha + \beta + \gamma$	a. $-d/a$
2. $\alpha\beta + \beta\gamma + \gamma\alpha$	b. $-b/a$
3. $\alpha\beta\gamma$	c. c/a

i. 1 – b, 2 – c, 3 – a ii. 1- b, 2 – a, 3 – c iii. 1- c, 2 – b, 3 – a iv. 1 – c, 2 – a, 3 – b

16. Write the general form of linear equation in two variables.
17. What is meant by consistent equations ?
18. What is the condition that the equation ax+by+c = 0 represents a linear equation ?
19. If x = 1, y = 1 is a solution of the equation 3x + ay = 6, find the value of 'a'.
20. Choose the correct answer satisfying the following statements.

Statement (A) : y = 5 is a line parallel to Y – axis.

Statement (B) : x = 7 is a line parallel to X – axis.

i. Both are true ii. 'A' is true, 'B' is false

iii. 'A' is false, 'B' is true iv. Both 'A' and 'B' are false

21. Write a quadratic equation whose roots are '3' and '1/2'
22. If $\log_3 27$ is a root of quadratic equation $x^2 + 5x + P = 0$, then find the value of 'P'
23. If the roots of the equation $3x^2 - 5x + 2K = 0$ are real,

K.SREENIVASA RAJU 9441637668

then write the condition in 'K'.

24. Write the general form of quadratic equation

25. Find the product of the roots of the equation $4x^2 = 1$

26. Write the angles of a triangle which are in A.P ?

27. Write three terms which are in both AP and GP.

28. If the n^{th} term of an AP is $a_n = 3 + 2n$, then find common difference.

29. If $\frac{-2}{7}, x, \frac{-7}{2}$, –are in G.P, then find 'x'.

30. Find the sum of 20 terms of the AP : 5, 8, 11, 14, ...

31. What is the slope of the line passing through the points (2a, 3b) and (2b, 3a).

32. Find the distance of the point (a cosθ, - a sinθ) from the origin.

33. What is the equation of x – axis ?

34. Angle between the lines x = 2 and y = 3 is i. 90° ii. 0° iii. 30° iv. 45°

35. Write the general form of a point lies on x – axis.

36. Is a square similar to rectangle ? Justify your answer.

37. A man goes 3m due east and 4m due north. How far is he from the starting point ?

38. If $\Delta ABC \sim \Delta PQR$ and $\angle A = 50°$, then find $\angle Q + \angle R$.

39. Give any two examples for similar figures.

40. Choose the correct answer satisfying the following conditions.

Statement A : In ΔABC, if $\angle B = 90°$ then $b^2 = a^2 + c^2$

Statement B : In ΔABC, if $AB^2 = BC^2 + AC^2$ then $\angle C = 90°$

i. Both A and B are true ii. Both A and B are false

iii. A is true, B is false iv. A is false, B is true

41. How many tangents can you draw to a circle ?

42. What is the distance between two parallel tangents of a circle of the radius 4cm ?

43. How can you find the area of major segment using area of minor segment.

4 4. Draw a circle with any radius and draw four tangents at different points.

45.Choose the correct answer satisfying the following conditions.

Statement A : Angles in the same segment of the circle area equal

Statement B : A cyclic Rhombus is a square.

i. Both A and B are true ii. A is true, B is false iii. A is false, B is true iv. Both A and B are false

46. Write the formula to find the volume of Right pyramid.

47. State the relation between 'r' and 'l' (slant height) of a cone.

48. If a cylinder and cone are of the same radius and height, then how many cones full of milk can fill the cylinder ?

49. Find the volume of a cube whose side is 1cm.

50. Choose the correct answer satisfying the following statements.

Statement A : No.of edges of a cuboid are 12

Statement B : No.of surfaces of a cuboid are 8

1.Both 'A' and 'B' are true 2. 'A' is true, 'B' is false

3. 'A' is false, 'B' is true 4. Both 'A' and 'B' are false

51.Find the value of 'x', if 2 sinx = $\sqrt{3}$

K.SREENIVASA RAJU **9441637668**

52. Evaluate Cos76° – Sin 14°

53. Find the value of tan²45° + Cot²30°

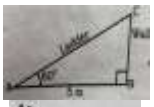
54. If tan(A + 45°) = $\sqrt{3}$, then find the value of 'A'.

55. Find the value of tan 2A, if Cos3A = Sin 45°

56.From the adjacent figure,Find the value represented by AB.

57.Find the length of the ladder from the Adjacent figure.

58.From the given figure find BC.



59.What do you know about 'Theodolites' ?

60.In ΔPQR, ∟Q = 90°, PQ = 100$\sqrt{3}$m , PR = 200m. Find ∟PRQ.

61. If P(E) = 0.546, what is the probability of "not E"

62. Can $\frac{7}{2}$ be the probability of an event ? Explain.

63. What is the probability of drawing out a red king from a deck of cards ?

64. P(E) = 0.09 then find P($\overline{E}$) in percentage.

65. Who gave the defination of probability ?

66..If the median of $\frac{x}{5}, \frac{x}{4}, \frac{x}{3}$ is 5 then 'x' [ ] A. 15

67. Mean of the scores 1 – x, 1, x + 1 is [ ] B. 20

68.If the mode of x , $\frac{x}{2}, \frac{x}{2}, \frac{x}{3}, \frac{x}{3}, \frac{x}{3}$ is 5 then 'x' [ ] C. 1

1.1 – C, 2 – A, 3 – B 2.1 – B, 2 – C, 3 – A 3.1 – C, 2 – B, 3 – A 4.1 – B, 2 – A, 3 – C

69. If mean value of Tan 0°, Tan x°, Sin 30° is equal to Sin 30°, then find 'x'.

70. Choose the correct answer satisfying the following conditions.

Statement A : Arithmetic mean influences on the extreme values of the data.

Statement B : Uni – modal data may have many modes.

1. Both A and B are true 2. A is true, B is false

3. A is false, B is true 4. Both A and B are false

K.SREENIVASA RAJU 9441637668

TEST 6

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46			
22		47			
23		48			
24		49			
25		50			

K.SREENIVASA RAJU 9441637668

TEST 7

1. Choose the correct answer satisfying the following conditions

Statement (A) : Expand form of log 1000 = 3 log 2 + 3 log 5

Statement (B) : The Prime Factorization of 729 is 3^6

a. Both A and B are true b. A is true, B is false

c. A is false, B is true d. Both A and B are false

2. State the Euclid's Division Lemma.

3. What is the last digit of 5^{100}

4. Write The Fundamental Theorem of Arithmetic

5. Write an example for Non – Terminating and Repeating Decimal.

Answer the Questions 6 and 7 based on the data given below.

"If A is the set of first five natural numbers and B is the set of factors of 12"

6. Find the value of n(A ∩ B) ?

7. Find the set A – B.

8. Match the roster form with the set builder form.

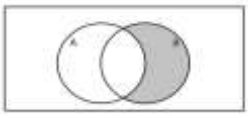
Then find correct answer of suitable combination from the given below.

1.{P, R, I, N, C, A, L}	**A. {x : x is a positive integer and is divisor of 18}**
2.{ 0 }	**B. {x : x is an integer and $x^2 - 9 = 0$}**
3.{1, 2, 3, 6, 9, 18}	**C. {x : x is an integer and x + 1 = 1}**
4.{3, - 3}	**D. {x : x is a letter of the word PRINCIPAL}**

a. 1 – A, 2 – B, 3 – C, 4 – D **b. 1 – C, 2 – D, 3 – A, 4 – B**

c. 1 – D, 2 – C, 3 – A, 4 – B **d. 1 – B, 2 – D, 3 – A, 4 – C**

9. State whether the following statement is true or false. Justify it
"5 ∉ set of Primes"



10. what is the set represented for the shaded portion from the figure :

11. Find the sum of the zeroes of the polynomial $x^2 - x - 20$.

12. How many number of zeroes can be identified by the adjacent figure.

13. Give an example which is not a polynomial ?

14. What is the division algorithm for polynomials ?

15. Find the cubic polynomial with zeroes α, β, γ

Answer the Questions 6 and 7 based on the data given below.

"5 pens and 7 pencils together cost Rs.50, where as 7 pens and 5 pencils together cost Rs.46."

16. Write a pair of linear equations in two variables x and y from the above data.

17. Which system of linear equations in two variables does the data represent ?

18. If $a_1x + b_1y + c_1 = 0, a_2x + b_2y + c_2 = 0$ are the pair of linear equations in two variables then which of the following is correct ?

1. $\frac{a_1}{a_2} = \frac{b_1}{b_2} \neq \frac{c_1}{c_2}$	**( ) a. Intersecting lines**
2. $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$	**( ) b. Dependent lines**
3. $\frac{a_1}{a_2} \neq \frac{b_1}{b_2}$	**( ) c. Parallel lines**

i.1 – a, 2 – b, 3 – c ii. 1 – b, 2 – c, 3 – a iii. 1 – c, 2 – b, 3 – a iv. 1 – c, 2 – a, 3 – b .

K.SREENIVASA RAJU **9441637668**

19. Sachin and Sehwag scored 137 runs together. Express the information in the form of a linear equation.

20. Mohan says "The linear equation in two variables has only two solutions". Do you agree with Mohan ?

21. If the discriminate of $3x^2 - 14x + K = 0$ is 100, then find the value of 'K'.

22. Find the nature of roots of $2x^2 - 3x + 5 = 0$

23. Find the roots of the quadratic equation $x^2 - 3x = 2$

24. Which of the following is correct ?

Statement (A) : If $ax^2 + bx + c = 0$ has equal roots then $C = b^2/2a$

Statement (B) : Any quadratic equation has at most two zeroes.

i. Both A and B are true ii. Both A and B are false

iii. A is true, B is false iv. A is false, B is true

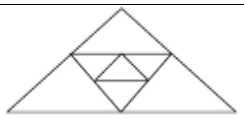
25. If $x^2 - 2x + 1 = 0$ then find $x + 1/x$

26. Find out the common ratio in the GP : 2, $2\sqrt{2}$, 4, ...

27. Establish the relationship between the first and nth term of an AP in which d = 0.

28. The hand bore well driller charges Rs.200 for the first one meter only and raises drilling charges at Rs.30 for every subsequent meter. Write a progression for the above data.

29. In which progression are the perimeters of the triangle formed by joining the mid points of sides of triangle successively in the given figure



30. Choose the correct answers satisfying the following statements.

Statement A : The sum of first 40 positive integers divisible by 40 is 9420.

Statement B : The no. of 3 digit numbers that are divisible by 77 are 128.

i. Both A and B are true ii. Both A and B are false

iii. A is true, B is false iv. A is false, B is true

31. Choose the correct answer satisfying the following statements.

Statement A : $= \frac{1}{2}|(x_1y_2 - x_2y_1) + (x_2y_3 - x_3y_2) + (x_3y_4 - x_4y_3) + (x_4y_1 - x_1y_4))$

Statement B : $= \frac{1}{2}|(x_1y_2 - x_2y_1) + (x_2y_3 - x_3y_2) + (x_3y_1 - x_1y_3)|$

i. A is false, B is true ii. A is true, B is false iii. Both A and B are true iv. Both A and B are false

32. Find the distance between the points $(\log_3 9, \log_3 1)$ and (0, 3)

33. Mention the slopes of x – axis and y – axis.

34. If A (1, -1), B (2, 1), C (4, 5); area of a triangle is zero, then what would you say about A, B, C ?

35. If x >0, y < 0, then (x, – y) lies on I .Q_1 ii. Q_2 iii. Q_3 iv. Q_4

36. The diagonal of a square is 6cm. Find its side.

37. Match the following. Then find correct answer of suitable combinations from the given below.

1. The ratio of the sides of a triangle whose ( ) a. 1 : 1 : 1 angles are 30°, 60°, 90° is

2. The ratio of the sides of a triangle whose ( ) b. 1 : 3 : 2 angles are equal is

3. The ratio of the sides of a triangles whose ( ) c. 1 : 1 : 2 angles are 45°, 45°, 90° is

i.1 – a, 2 – b, 3 – c ii. 1 – b, 2 – a, 3 – c iii. 1 – b, 2 – c, 3 – a iv. 1 – c, 2 – a, 3 – b

38. The perimeters of two similar triangles are 24cm and 18cm respectively. If one side of the first triangle is 8cm then what is the corresponding side of second triangle ?

K.SREENIVASA RAJU **9441637668**

39. In ΔABC, ∠B = 90°, BD ⊥ AC. If AD = 8cm and BD = 4cm then what is the length of CD.

40.In ΔABC and ΔDEF, if ∠B = ∠E, ∠C = ∠F then which of the following is a true statement ?

1. $AB/DE = CA/EF$ **2.** $BC/EF = AB/FD$ **3.** $AB/DE = BC/EF$ **4.** $CA/FD = AB/EF$

41. Ravali says, "Tangents drawn form an external point are parallel." Do you agree with her ? Give reason.

42. Match the following. Then find correct answer of suitable combination form the given below.

1. An angle in a semi circle ( ) a. <90

2. An angle in a minor segment ( ) b. >90

3. An angle in a major segment ( ) c. =90

i. 1 – b, 2 – c, 3 – a ii. 1 – c, 2 – a, 3 – b iii. 1 – b, 2 – a , 3 – c iv. 1 –c, 2 – b, 3 – a

43. Define sector in your own words.

44. When riding a bicycle, what is the relation between the wheel of bicycle and road ?

45. Find the value of angle made by minute hand in a clock during a period of 10 minutes.

46. Find the ratio of their radii.

47. Find the ratio of their surface areas.

48.If 'r' is the radius of hemisphere then which of the following is correct.

1. Curved surface area ( ) a. $3\pi r^2$

2. Total Surface area ( ) b. $2/3\pi r^2$

3. Volume ( ) c. $2\pi r^2$

1. 1 – c, 2- b, 3 – a 2. 1 – b, 2 – c, 3 – a 3. 1 – c, 2 – a, 3 – b 4. 1 – b, 2 – a, 3 – c

4 9.Find the volume of Cuboid if l = 12cm, b = 10cm and h = 8cm.

50. A cylinder mounted with a cone forms 1. Funnel 2. Conical flask 3. Tent 4. Capsule

51. Identify the correct statement.

Statement A : Sin (A + B) = SinA.CosB + CosA.SinB

Statement B : Cos (A + B) = CosA.CosB + SinA.SinB

i. A is false, B is true ii. A is true, B is false

iii. Both A and B are true iv. Both A and B are false

52. If x = Cosecθ + cotθ, y = Cosecθ – Cotθ, then which of the following is true ?

i. x + y = 0 ii. x – y = 0 iii. xy = 1 iv. $xy = 1$

53. Evaluate Cos1°. Cos 2°. Cos 3°……. Cos 100°.

54. Match the following.

1. Sin 45° × Cos 45°	**[ ]**	**a. 1**
2. Secθ × Cosθ	**[ ]**	**b. -1**
3. Tan²θ – Sec²θ	**[ ]**	**c. 1/2**

i.1 – b, 2 – c, 3 – a ii. 1 – c, 2 – b, 3 – a

iii. 1 – b, 2 – a, 3 – c iv. 1 – c, 2 – a, 3 – b

55. If Sin A = Cos A then find the value of 'A'.

56.In ΔABC, if AD ⊥ BC, ∟B = 30°, ∟C = 60° and AD = $7\sqrt{3}$ **m, them find BC.**

57.If a tower of height 'h' is observed from a point with a distance 'd' and angle 'θ' then express the relation among h, d and 'θ'.

58.Identify the correct statement. Statement A : The height and length of the shadow of a man are the same, then the angle of elevation of the sun is 45°.

K.SREENIVASA RAJU **9441637668**

Statement B : The ratio of the length of a pole and its shadow is 1 : $\sqrt{3}$, then the angle of elevation of the sun is 300.

i.Both A and B are trueii. Both A and B are falseiii. A is false, B is trueiv. A is false, B is true

59.A tower of height 100m casts shadow of length 100 $\sqrt{3}$m then what is the angle of elevation of the sun at that time ?

60.What is the angle of elevation ?

61. What is the sum of the probabilities of all out comes of an experiment ?

62. A letter choosen at random from the letters of word "MATHEMATICS". Find the probability that the letter choosen is vowel ?

63. Match the following cards and their numbers.

1. face cards	**a. 13**
2. aces	**b. 12**
3. red kings	**c. 4**
4. diamonds	**d. 2**

1 – a, 2 – b, 3 – c, 4 – d ii. 1 – b, 2 – c, 3 – d, 4 – a

iii. 1 – a, 2 – b, 3 – d,4 – c iv. 1 – b, 2 – a, 3 – c, 4 – d

64. From the figure

find the probability of getting blue ball.

W	**W**	**R**	**R**	
B	**B**	**B**		

65. Vineetha said that the probability of impossible events is '1'. Suneetha said that the probability of sure event is '0' and Sireesha said that the probability of any event lies in between '0' and '1'. With whom will you agree ?

66. Point of intersection of less than ogive and more than ogive curves is (15.5, 20). Find median.

67. To compare the result of students of different schools in 10th class examinations, what is the measure that would be best suited?

8. Can mode be calculated for grouped data with unequal class sizes.

69. Find the range of first 10 Prime numbers.

70.Let a data contains 'n' observations and they arranged in an ascending order. If 'n' is odd, then median is ……. 1.$(\frac{n}{2})^{th}$ observations 2.$(\frac{n}{2}+1)^{th}$ observations

3. $average\ of$ $(\frac{n}{2})^{th}$,$(\frac{n}{2}+1)^{th}$ observations 4. $(n)^{th}$ observations.

K.SREENIVASA RAJU **9441637668**

TEST 7

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46			
22		47			
23		48			
24		49			
25		50			

K.SREENIVASA RAJU 9441637668

Test 8

1. In the rational form of a terminating decimal number, prime factor of the denominator is_____
2. Decimal form of 1/400 is _____
3. $\log_a(x.y)$= _____
4. $\log_a(\frac{x}{y})$= _____
5. $\log x^x$ = _____
6. $\log_a a^m$ = _____
7. The exponential form of log a $\log_a \sqrt{x}$ = b is _____
8. Expansion of log ($\frac{p^2q^3}{r}$) is _____
9. $\log_c \sqrt{c}$ = _____
10. $\log_a x^m$= _____
11. If $p_1, p_2, p_3, p_4, \ldots\ldots\ldots\ldots p_n$ are Co – primes then find their LCM.
12. Write the Decimal expansion of the rational number $\frac{35}{50}$without actual division_____
13. Set builder form of {1, 8, 27, 64} is _____
14. If n(A) = 20, n(B) = 44, n(A∩B) = 13, n(AUB) = _____
15. If n(AUB) = n(A)+ n(B) then A, B are _____ sets
16. If n(A)=5, n(B)=7 then maximum no. of elements in AUB =
17. If A, B are disjoint sets and n(A)=5, n(AUB)=8, then n(B) = _____
18. Describing a set by some special property common to all its elements is called ____
19. Set builder form of {1, 1/2, 1/3, 1/4, 1/5, 1/6} is _____
20. If a set has only one element, It is called _____
21. If in two sets A and B, each element of A belongs to B and each element of B belongs to A, then we can say A, B are _____
22. If B = {5, 7, 10, 11, 13, 15}, n(B) = _____
23. Define Null set ?
24. Which of the following is an example for finite set ?

a. { x/ x ∈ N and x^2 = 9}

b. Set of rational numbers inbetween 2 and 3

c. Multiples of even primes d. Set of all Primes

25. Choose the correct answer satisfying the following conditions.

Statement A : Every quadratic polynomial will have two zeroes.

Statement B : If the order of $ax^5 + 3x^4 + 4x^3 + 3x^2 + 2x + 1$ is 4 then a = 0.

1.Both A and B are true 2. A is true, B is false

3. A is false, B is true 4. Both A and B are false.

26. If one zero of the quadratic polynomial $2x^2$+kx-15 is 3, then the other zero is _____
27. If -1 is a zero of the polynomial f(x)= x^2-7x-8 then the other zero is _____
28. If α,β,γ are the zeroes of the polynomial p(x)=ax^3+bx^2+cx+d, then _____
29. If α, β are the zeroes of x^2+x+1, then = _____
30. If f(x), g(x) are any two polynomials with g(x)≠0, then we can find polynomials q(x), r(x) such that _____

K.SREENIVASA RAJU 9441637668

31. The product of the zeroes of $x^3+4x^2+4x-6 = 0$ is _____

32. If a>0, then the shape of $y=ax^2+bx+c$ is _____

33. If a<0, then the shape of $y=ax^2+bx+c$ is _____

34. If there is no x term in a cubic polynomial, then the value of αβ+βγ+γα = _____ (where α,β,γ are the zeroes)

35. . If the sum and the product of the roots are 3 and 2, then the quadratic equation is _____

36.The shape of the graph of $y = ax^2 + bx + c$ is _____

1. Parabola 2.Straight line 3. Circle 4. Hyperbola

37. Which of the following pair of equations satisfies dependent system (has infinite solution)

1.2x+y-5=0, 3x-2y-4=0 2.3x+4y=2,6x+8y=4

3.x+2y=3,2x+4y=5 4.x+2y-30,3x+6y+60=0

38. Which of the following pair has unique solution (consistent system)

1. 2x+3y-5=0, 4x+6y-10=0 2. 5x-6y+3=0, 15x-18y+4=0 3. 4x+6y-7=0, 8x+5y-8=0 4. x-2y=0, 4x-8y+5=0

39. Which of the following pair has no solution (inconsistent system)

1. 3x+3y-5=0, 4x+6y-10=0 2. x-3y+6=0, 3x-9y+7=0

3. 4x-3y+7=0, 8x-6y+14=0 4. x-5y=0, x=3y

40. The larger of two supplementary angles exceeds the smaller by 380, then the angles are ____

41. If the pair of equations 3x+y=1, (2k-1)+(k-1)y=2k-1 has no solution, then k = ____

42. If ax+by=c and px+qy=r has unique solution, then ____

43. The lines represented by 5x+7y-14=0 and 10x+3y-8=0 are ____ lines

44. The lines represented by 6x-7y+8=0 and 12x-14y+16=0 are ____

45. The lines represented by 3x-2y+5=0, 6x-4y+9=0 are ____ lines.

46. y=mx is the form of a line passing through ____

47. Which of the following numbers is a solution for the equation 2(x + 3) = 18 ?

a. 5 b. 6 c. 13 d. 21

48. The point (7, -5) lies in which quadrant ?

49. If b2-4ac>0 then the graph of y= ax2+bx+c cuts the X-Axis at ____ points

50. If b2-4ac=0, then the curve of y = ax2+bx+c ____ X-Axis

51. If b2-4ac<0, then the curve y= ax2+bx+c ____ the X-Axis.

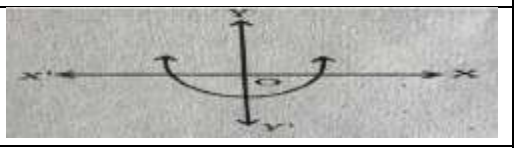
52. If 4x2+kx-2=0 has no real roots, then k<____

53. If 3x2-kx+8=0 has real roots, then k>____

54. The adjacent graph indicates

i. $b^2 - 4ac > 0$ ii. $b^2 - 4ac = 0$

iii. $b^2 - 4ac < 0$ iv. None of these



55. Match the following.

1. $b^2 - 4ac = 0$	**a. real and distinct roots**
2. $b^2 - 4ac > 0$	**b. no real roots**
3. $b^2 - 4ac < 0$	**c. real and equal roots**

i. 1 – a, 2 – b, 3 – c ii. 1 – c, 2 – a, 3 – b iii. 1 – c, 2 – b, 3 – a iv. 1 – b, 2 – c, 3 – a

56. The sum of first 100 natural numbers is ____

K.SREENIVASA RAJU **9441637668**

57. ___ th term of the A: 24, 21, 18, . . . is the first negative.
58. The sum of 15 terms of the AP 4, 7, 10 . . . is ____
59. If the 7th term of AP exceeds the 3rd term by 32, common difference____
60. How many numbers are divisible by 4, between 100 and 250 ____
61. The 405th term of 1, -1, 1, -1, . . . is ____
62. If a7 / a4 = 343 in a GP, then the common ratio is ____
63. ____ th term of AP -20, -18, -16, . .. is the first positive term.
64. 20th term of AP: 3, 8, 13 … is ____
65. The sum of first 1000 positive integers is ____
66. Match the following. ( )

1. 1 + 2 + 3 + ... + n **a.** $\frac{n\,n+1\,(2n+1)}{2}$

2. $1^2 + 2^2 + 3^2 + \ldots + n^2$ **b.** $[\frac{n\,(n+1)}{2}]^2$

3. $1^3 + 2^3 + 3^3 + \ldots + n^3$ **c.** $\frac{n\,(n+1)}{2}$

d. $\frac{n\,n+1\,(2n+1)}{6}$6

e. $\frac{n(n+1)}{4}$

i. 1 – c, 2 – a, 3 – b ii. 1 – c, 2 – d, 3 – e iii. 1 – e, 2 – d, 3 – b iv. 1 – c, 2 – d, 3 – b

67. $\frac{1+2+3+\cdots+n}{1+3+5+\cdots+(2n-1)=}$ **i.** $\frac{n}{2}$ **ii.** $\frac{n+1}{2n}$ **iii.** $\frac{n-1}{2}$ **iv.** $2n$

68. Centroid divides each Median in the ratio ____
69. Co-ordinates of a point on x axis, which is at 5 units away from (2,0) is____
70. If slopes of line segments AB and BC are equal, then the area of Δ A B Cis ____
71. If x coordinates of two points are zero. Then slope of the line segment joined by these two points is ____
72. The distance between the points (cos θ , 0) and (0, sinθ) is ____
73. If ABC is a rectangle whose vertices O(o,o), A(4,0), C(0,3) then its diagonal length is ____ units
74. The distance of the point (-5, 4) from X axis is ____
75. The distance of the point (-3, -2) from y axis is ____
76. Two vertices of a triangle are (3,5) and (-4,-5). If the centroid of the triangle is (4,3) then, the third vertex is ____
77. If (0,0)(x,0)(0,y) are collinear, then ____
78. Find the radius of the circle whose centre is (3, 2) and passes through (-5, 6)
79. If a line makes 45° with x – axis then find its slope.
80. If ΔABC ~ ΔDEF, BC = 4 cm, EF = 5 cm and ΔABC = 80 cm2 then ΔDEF = _____
81. ΔABC ~ ΔPQR, M is the midpoint of BC and N is the Midpoint of QR. If the area of ΔABC = 100 cm² and the area of ΔPQR = 144 cm2 and AM = 4 cm then PN = _____
82. In PQR, PQ = 6√3 cm, PR = 12 cm, QR = 6 cm then the right angle is at _____
83. In ABC, the Mid points D, E and F of the sides AB, BC and CA then DEF : ABC = _____
84. The areas of two similar triangles are 25 cm2 and 36 cm2. If the Median of smaller triangle is 10 cm, then the median of the larger triangle is _____
85. If in two triangles, corresponding sides are in the same ratio, then the two triangles are similar, this is called _____

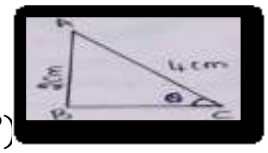
86. Area of an equilateral triangle with side 'a' units is _____
87. All circles and squares are _____ to each other.
88. Two triangles are similar if their _____ are equal.
89. Two triangles are similar if their corresponding sides are _____
90. What can you say about the ratio of areas of two similar triangles ?
91. The altitude of an equilateral triangle is $6\sqrt{3}$cm. Find the length of its side.
92. The angle at the centre is x0 and radius of the circle is 'r', then area of sector is ____
93. The region bounded by the arc and a chord of a circle is called a ____
94. The number of parallel tangents to a circle with a given tangent is ____
95. Two concentric circles of radii x and y (x>y) are given. The chord AB of larger circle touches the smaller circle at C. the length of AB is ____
96. If two tangents inclined at an angle of 600 are drawn to circle of radius 3 cm, the length of each tangent is ____
97. A line segment joining any two points on a circle is called its ____
98. ____ tangents can be drawn from a point inside a circle.
99. A line which is perpendicular to the radius of the circle through the point of contact is ____
100. The area of a circle that can be inscribed in a square of side 4 cm is____
101. Angle in a major segment is ____ angle
102. Which of the following has only one point in common to the circle ?
i. Diameter ii. Tangent iii. Secant iv. Chord
103. Volume of Right pyramid ____
104. If the surface areas of two spheres are in the ratio 1:4, then ratio of theirvolumes is ____
105. The ratio of volume of a cone and cylinder of equal radius and height is ____
106. TSA of a hemi sphere whose radius is 7 cm is ____
107. If the ratio of radii of two spheres is 4:7 then the ratio of their surface areas is ____
108. If a right angled triangle is revolved about its hypotenuse, then it will form a ____
109. If TSA of a cube is 216 cm2 then its volume is ____
110. If the radius of base of a cylinder is doubled and the height remains unchanged, its CSA becomes ____ times
111. A cylinder, a cone and a hemi sphere are of equal base and have the same height, then the ratio of their volumes is ____
112. The ratio of volume of two cones is 4:5 and the ratio of the radii of __their base is 2:3, then ratio of their heights is ____

Answer the Questions 6 and 7 based on the data given below.

"Volume of two spheres are in the ratio 64 : 27."

113. Ramana says "The TSA of a hemisphere is half of the TSA of a sphere." Do you agree with Ramana ? Why?
114. "You want to know that the number of match sticks that can be put in the match box." Now find out whether you need volume or area ?
115. Tan (A+B) =$\sqrt{3}$, Tan A = 1 then B = ____
116. sin A / cos A = ____
117. cos θ / sin θ = ____
118. If tan θ is not defined, θ = ____

119. The value of sin θ in terms of sec θ is ____
120. If cot θ = 3/4 then cosec θ = ____
121. sin θ . cot θ = ____
122. If cosec θ – cot θ = 4, then cosec θ + cot θ = ____
123. cosec θ + cot θ = m , then cosec θ – cot θ =
124. $\sin^2 47° + \sin^2 43°$ = ____
125. Find the value of 'θ' in the adjacent figure.



126. Evaluate $\log_2(\text{Sin}90°)$
127. In a simultaneous toss of two coins, the probability of at least one head is ____
128. when a die is rolled, probability of getting a composite number is ____
129. Probability of drawing a black face card from a deck of cards is ____
130. If P(E) = 2/5 then P(not E) = ____
131. Probability of getting a red coloured card from a deck of cards is ____
132. If two dice are thrown simultaneously, then the sum with greatest possibility to happen is ____
133. From a bag containing 6 red, 5 green, 3 blue balls, the probability of getting a green ball at random is ____
134. When a die is rolled, the event of getting a number less than or equal to 6 is a ____
135. When two coins are tossed simultaneously, probability of getting no tails is ____
136. If two dice are rolled simultaneously, the probability of showing the same numbers on their faces is ____
137. In order to find Median, class intervals should be _____
138. While drawing less than ogive curve, _____ are taken on xaxis
139. While drawing more than ogive curve, _____ are taken on xaxis
140. The X coordinate of the point of intersection of the two ogive curves for the given grouped data is its _____
141. Mode of 20, 3, 7, 13, 3, 4, 6, 7, 19, 15, 7, 18, 3 is _____
142. If Mean = Mode = Medium, the data is called _____
143. The Mean of a+2, a, a-2 is _____
144. In the classes 1-10, 11-20, 21-30, . . . the upper boundary of 1-10 is _____
145. Length of the class of the frequency distribution having the classes 1-8,9-16, 13-24 is _____
146. The class whose cumulative frequency exceeds n/2 for the first time is called _____
147.What is the measure of central tendency used to give rating to T.V. Programmes ?
148. Find the mode of$\log_3 27, \log_5 5, \log_4 64, \log_2 8, \log_{10} 100$
149.If the angle of elevation of sun increases from 0° to 90°, then the length of shadow of the tower.

i.No change ii. Increases iii. decreases iv. Can't be decided

150.If AB = 4cm and AC = 8cm then the angle of elevation of A as observed from C is

i. 30° ii. 45°iii. 60°iv. 90°

K.SREENIVASA RAJU 9441637668

TEST 8

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46		71	
22		47		72	
23		48		73	
24		49		74	
25		50		75	

K.SREENIVASA RAJU 9441637668

76		101		126	
77		102		127	
78		103		128	
79		104		129	
80		105		130	
81		106		131	
82		107		132	
83		108		133	
84		109		134	
85		110		135	
86		111		136	
87		112		137	
88		113		138	
89		114		139	
90		115		140	
91		116		141	
92		117		142	
93		118		143	
94		119		144	
95		120		145	
96		121		146	
97		122		147	
98		123		148	
99		124		149	
100		125		150	

K.SREENIVASA RAJU **9441637668**

Test 9

1. If log 2 = 0.3010 then log 16 = _____
2. H.C.F of co primes is _____
3. L.C.M of co primes is _____
4. No. of prime factors of 72 is _____
5. H.C.F of 12, 15, 21 is _____
6. L.CM of 72 and 108 is _____
7. Additive Identity is _____
8. Multiplicative Identity is _____
9. Additive inverse of x is _____
10. Multiplicative inverse of a ($a \neq 0$) is _____
11. a(b+c) = ab+ac is called _____ property.
12. a+(b+c) = (a+b)+c is called _____ property.
13. Periodicity of 1/7 is _____
14. $\log_{\frac{2}{3}} \frac{8}{27}$ = _____
15. x^{-n}= _____
16. Rule form of {2,4,6,8,10} is _____
17. A $\subset$ B , n(A)=5, n(B)=6 then n(AUB) = _____
18. A $\subset$ B , n(A)=3, n(B)=5, then n(A$\cap$B) = _____
19. A $\subset$ B, n(A)=4, n(B)=6, n(A-B) = _____
20. A = {1,2,3,4,5}, B = {4,5,6,7} then A-B = _____
21. A = {1,3,7,8}, B = {2,4,7,9} then A$\cap$B = _____
22. A = {2,5,6,8}, B = {5,7,9,1} then AUB = _____
23. If set A has n elements then no. of subsets of A = _____
24. No. of subsets of {x,y,z} is _____
25. _____ is a subset of every set.
26. If A = {x: x is a letter in the word ASSASSINATION} then n(A) = _____
27. Set builder form of {1,4,9,25,……,100} is _____
28. Set Builder form of {3,6,9,12} is _____
29. Roster form of {x: x is a prime divisor of 60} is _____
30. The form, in which the elements are listed as immaterial is called _____
31. The sum of zeroes of the polynomial $2x^3$-$5x^2$-14x+8 is _____
32. If 1/3 is one zero of $3x^2$+5x-2, then the other zero is _____
33. Product of the zeroes of x^2-3 is _____
34. If α,β,γ are the zeroes of $2x^3$-$3x^2$-14x+8, αβ+βγ+γα = _____
35. The value of the polynomial p(x)=$3x^2$-5x-2 at x=2 is _____
36. Which of the following is a linear equation in one variable
    1.2x+1=y-3 2.2t-1=3t+5 3.2x-1=x2 4.x2-x+1=0_____
37. solution of 2x-y=5 and 3x+2y=11 is ____
38. If 2/x + 3/y = 13 and 5/x – 4/y = -2 then the solution is ____
39. The pair of values of the variables x, y for which the pair of equations satisfied is called its ____
40. If the pair of equations 2x+py=-5 and 3x+3y=-6 has a unique solution, then ____
36. In an AP If a12=37, d=3 then a= ____
37. an / an-1 in a GP is called ____
38. ____ th term of the GP: 2, $2\sqrt{2}$, 4, … is 128.

K.SREENIVASA RAJU 9441637668

39. If ak+1 – ak is the same for different values of k, then the numbers a1, a2, a3, …. Are in ____

40. sum of 51 terms of 1, -1, 1, -1 …. Is ____

41. The sum of first 20 even numbers is ____

42. No. of terms needed to make the sum 78 in the AP: 24, 21, 18, …_____

43. If there are n terms between a and b in an AP, then d = ____

44. 15th term of x+y, x-y, x-3y, … is ____

45. The next term of AP: a+3d, a+d, a-d,… is ____

46. If x, y, z are in GP then y = ____

47. If x-1, x+3, 3x-1 are in AP, then x = ____

48. The 16th term of 1.1, 2.2, 3.3 … is ____

49. The AP with first term 1 and common difference -2 is ____

50. The 10th term of GP: 5, 25, 125…. Is ____

51. If the distance between (3, k) and (4, 1) is $\sqrt{10}$ units, then K = ____

52. The quadrant in which the point (-3, 5) lies is ____

53 Area of the triangle formed by the vertices (6,0)(0,0)(0,-4) is ____

54. If A(2,2), B(-4, 4), C(5, -8) are the vertices of ΔABC then the length of Median from C is __

55. A circle is drawn with origin as centre and passing through (-3, 4), then its radius is ___

56. The points (-3, 0), (0, 5), (3, 0) form ____ triangle

57. The ratio in which the point (-1, 6) divides the line segment joining the points (-3, 10) and (6, -8) is ____

58. If (-2, -1) (a, o) (4, b) and (1, 2) are the vertices of a parallelogram then a = ____, b = ____

59 The distance between (a cosθ, 0) and (o, a sinθ) is ____

60. If the points (1, 2) (-1, p) (2, 3) are collinear, p = ____

61. If the distance between (4, k) and (1, 0) is 5, then k = ____

62. A circle drawn with origin as centre passes through (3, 4). Then the point (2, 4) lies in the ____ of the circle

63. The slope of the line joining (-4, 7) (7, 9) is ____

64. If the centroid of the triangle (x, y) (y, z) and (z, x) is (0, 0) then x3+y3+z3 = ____

65. Equation of X-axis is ____

66. If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar, This property is called _____

67. The perimeter of ABC ~ LMN are 60 cm and 48 cm respectively. If LM = 8 cm, then AB = _____

68. If ABC ~ PQR, A = 50° then Q+R = _____

69. The ratio of corresponding sides of two similar triangles is 3:2, then the ratio of their corresponding altitudes is _____

70. In ABC, , AD:DB = 2:1 then ADE:ABC = _____

71. ABC is an Isosceles right triangle and C=900 then AB2 = _____

72. The geometrical figures which have the same shape but are not necessarily of the same size are called _____ figures

73. If in two triangles, angles are equal then their corresponding sides are in the same ratio and hence the two triangles are similar. This property is called _____

74. In the Figure AD = x, DB = x-2, AE = x+2, EC = x- 1, then x = _____

75. From the figure, the value of x _____

K.SREENIVASA RAJU **9441637668**

76. If the areas of two similar triangles are equal, then they are_____

77. ABC=DEF and their areas are respectively 64 cm² and 121 cm², If EF = 15.4 cm, then BC = _____

78. A statement obtained by modifying the given statement by NOT is called its _____

79. The diagonals of a Rhombus are 24 cm and 32 cm then its perimeter is_____

80. A perpendicular is drawn from the vertex of right angle to the hypotenuse, then the triangles on each side of the perpendicular are

81. If the radii of two concentric circles are 5 cm and 13 cm, then the length of the chord of one circle which is tangent to the other circle is ____

82. The length of the tangents from a point A to a circle of radius 6 cm is 8 cm, then the distance between A and the centre of the circle is ____

83. A cone and a hemi sphere have equal bases and equal volumes, then the ratio of their heights is ____

84. The volume of the greatest cone that can be cut out of a cube whose edge is 7 cm ____

85. A cuboid of dimensions 49 cm x 33 cm x 24 cm is melted to form a solid sphere, then its radius ____

86. The volume of a cylinder is 448π cm3 and its height is 7 cm, then the radius of the base is ____

87. The number of cubes of side 2 cm which can be cut from a cube of side 6 cm is ____

88. The CSA of a right circular cone of height 15 cm and base diameter 16 cm is ____

89. The relationship between the slant height (l), radius (r) and height of the cone is ____

90. Funnel is an example for combination of ____ and ____

91. The diameter of a metallic sphere is 6 cm and meeted to draw a wire of diameter 2 cm, then the length of the wire is ____

92. A solid sphere of radius 'r' melted and recast into the shape of a solid cone of height r, then radius of the base of the cone is ____

93. An Iron cylinder has a height 4 times its radius is melted and cast into spherical balls of the same radius. The number of balls cast is ____

94. If length of each diagonal of a cube is doubled, then its volume becomes ____ times.

95. Volume of a sphere of radius 2.1 cm is ____

96. Total surface area of a circular cylinder which has base radius is 14 cm and height 21 cm ____

97. Volume of right circular cone with radius 6 cm and height 7 cm is ____

98. If tan θ = 7/24 then sin θ = ____

99. cos ²47° + cos ² 43° = ____

100. tan θ . ____ = sin θ

101. tan θ = sec θ . ____

**102. Sin^4 θ -Cos^4 θ / sin²θ-cos²θ = ____ **

103. cosec²θ / cot θ - cot θ = ____

104. sin θ . sec θ . cot θ. = ____

105. cos θ . tan θ . sec θ = ____

106. If sec θ = cosec θ then θ = ____

107. If sin 30° = cos A then A = ____

108. If cos θ = 0.5 then θ = ____

109. Tan 1° . Tan 2° . Tan 3° . . . . Tan 89° = ____

110. ____ established the relation between sides and angles of a triangle.

111. √1+cot²x = ____

112. Tan 26° . Tan 64° = ____

113. In a single throw of two dice, the probability of getting a sum of 11 is____

114. probability of sangeetha winning the match is 0.62, then probability oflosing the match is ____

115. If 3 coins are tossed simultaneously, the probability of getting same resulton all coins is ___

116. In a single throw of two dice, the probability of getting distinct numbersis ____

117. When two dice are rolled simultaneously, the probability of getting a total of 13 is ____

118. The Median of x/3, x/2, x/4, x/5, x (x>0) is 5, then x= _____

119. The Mean of 1, 2, 3, x is 0. Then x = _____

120. In a distribution, the Mid value of the class is 35, the lower boundary is 30, then the upper boundary is _____

121. Mode of first n natural numbers _____

122. The Mean of 9, 11, 13, p, 18, 19 is p, then p = _____

123. The lower limit of class 10-19 is _____

124. Less than cumulative frequency of two successive classes are 83, 72. Then the frequency of the higher class _____

125. The Median of 3/4, 1/2, 2/3, 1/6, 7/12 is _____

126. Range of 20, 18, 37, 42, 12, 3, 15, 26 is _____

127. If a data arrange in descending order has 25 observations then _____ th value represents the Median.

128. In a data, the two ogive curves intersect at (66.5, 30) then the Median of the Data _____

129. Mean of first n natural numbers is _____

130. If the Mean of x1, x2, x3 . . . xn is , then the Mean of x1/k, x2/k, x3/k is

131. The AM of 10 observations is 7, AM of 15 observations is 12, then the Mean of all observations ___

132. The Median of 3, 18, 6, 16, 12, 10 is _____

133. If cos (A-B) = 1/2, sin B = 1/√2 then ∟A = ____

134. Tan (90°- θ) = ____

135. cos π/3 = ____

136. tan (360° – θ) = ____

137. cosec (270°-θ) = ____

138. tan (-θ) = ____

139. If tan A = cot B then A+B = ____

140. The value of sec A or cosec A is always greater than or equal to ____

141. Tan 5° . tan 30° . 4 tan 85° = ____

142. Tan 780° = ____

143. If sin θ + sin² θ = 1 then cos² θ + Cos^4 θ = ____A = ____

144. sin 2A = ____

145. cos 2A = ____

146. Tan 2A = ____

147. If sec θ + tan θ = 4 then cos θ = ____

148. cos 60° . cos 30° + sin 60° . sin 30° = ____

149. sin 225° = ____

150. Tan θ in terms of cosec θ is ____

TEST 9

1		**26**		**51**	
2		**27**		**52**	
3		**28**		**53**	
4		**29**		**54**	
5		**30**		**55**	
6		**31**		**56**	
7		**32**		**57**	
8		**33**		**58**	
9		**34**		**59**	
10		**35**		**60**	
11		**36**		**61**	
12		**37**		**62**	
13		**38**		**63**	
14		**39**		**64**	
15		**40**		**65**	
16		**41**		**66**	
17		**42**		**67**	
18		**43**		**68**	
19		**44**		**69**	
20		**45**		**70**	
21		**46**		**71**	
22		**47**		**72**	
23		**48**		**73**	
24		**49**		**74**	
25		**50**		**75**	

K.SREENIVASA RAJU **9441637668**

76		101		126	
77		102		127	
78		103		128	
79		104		129	
80		105		130	
81		106		131	
82		107		132	
83		108		133	
84		109		134	
85		110		135	
86		111		136	
87		112		137	
88		113		138	
89		114		139	
90		115		140	
91		116		141	
92		117		142	
93		118		143	
94		119		144	
95		120		145	
96		121		146	
97		122		147	
98		123		148	
99		124		149	
100		125		150	

K.SREENIVASA RAJU **9441637668**

TEST -10

1.Numbers which can be written in the form of $\frac{p}{q}$ $(q \neq 0)$ where p and q areintegers. ( )

A) integers B)rational C) irrational D) natural

2.Numbers which cannot be expressed in the form of $\frac{p}{q}$ $(q \neq 0)$ are ( )

A) integers B) rational C) irrational D) natural

3.Which of the following is true? ( )

A) NCWCZCR B) WCZCNCR C) RCZCWCN D)ZCWCRCN

4.HCF (12,15,21) = A) 2 B) 3 C) 1 D) 5 ( )

5.LCM (12,18) = ( )

A) 12 B)18 C) 6 D) 36

6. Empty set is denoted by A.∅ B.{ } C. ∅ or { }D.{0} ( )

7. n(∅) = A.1 B. ∅ C.0 D.infinite

8. Which of the following is nota empty set? ( )

A.Set of all natural numbers < 1 B.Set of even prime numbers

C.Set of odd numbers that have remainder zero, when divided by 2

D.Set of integers which lies between 2 and 3.

9. Which of the following set is infinite? A.Set of all natural numbers < 10

B.Set of prime numbers< 10 C.Set of all integers < 10 D.Set of all factors of 10. ( )

10.The universal set is denoted by A. ∅ B.μ C.O D.A ( )

*11.A*real no. k is a zero of the polynomial $f(x)$ if ( )

(a) $f(k) > 0$ (b) $f(k) = 0$ (c) $f(k) < 0$ (d) none

12. The zero's of a polynomial $f(x)$ are the coordinates of the points where the graph of $y = f(x)$ intersects( )

(a) x-axis (b) y-axis (c) origin (d) (x, y)

13. If k is 0 zero of $f(x)$ then ____ is one of the factors of $f(x)$ ( )

(a) $(x - k)$ (b) $(x - 2k)$ (c) $(x + k)$ (d) $(2x - k)$

14. If $(y - a)$ is factor of $f(y)$ then ___ is a zero of $f(y)$ ( )

(a) y (b) a (c)$2a$ (d) $2y$

15. Which of the following is not correct for : A quadratic polynomial may have ( )

(a) no real zeros (b) two equal real zeros

(c) two distinct zeros (d) three real zeros.

16. Every linear equation in two variables has ___ solution(s). ( )

(A) no (B) one (C) two (D) infinitely many

17. $\frac{a_1}{a_2} = \frac{b_1}{b_2} = \frac{c_1}{c_2}$is the condition for ( )

(A) intersecting lines (B) parallel lines (C) coincident lines (D) none

18. For a pair to be consistent and dependent the pair must have ( )

(A) no solution (B) unique solution(C) infinitely many solutions (D) none of these

19. Graph of every linear equation in two variables represent a ___ ( )

(A) point (B) straight line (C) curve (D) triangle

20. Each point on the graph of pair of two lines is a common solution of the lines in case of

(A) Infinitely many solutions (B) only one solution ( )

(C) no solution (D) none of these

21.The general form of a quadratic equation is $(a \neq 0)$ ( )

K.SREENIVASA RAJU 9441637668

(A) $ax^2 + bx + c$ (B) $ax^2 + bx + c = 0$ (C) $ax + b$ (D) $ax + b = 0$

22. Number of solutions of a quadratic equation are ( )
(A) 0 (B) 1 (C) 2 (D) 3

23. Discriminant of a quadratic equation $ax^2 + bx + c = 0$ is given by ( )
(A) $\sqrt{b^2 - 4ac}$ (B) $\sqrt{b^2 + 4ac}$ (C) $b^2 - 4ac$ (D) $b^2 + 4ac$

24. Which is a quadratic equation? ( )
(A) $x + \frac{1}{x} = 2$ (B) $x^2 + 1 = (x+3)^3$ (C) $x(x+2)$ (D) $x + \frac{1}{x}$

25. If the roots of a quadratic equation are 2 and 3, then the equation is ( )
(A) $x^2 + 5x + 6 = 0$ (B) $x^2 + 5x - 6 = 0$ (C) $x^2 - 5x - 6 = 0$ (D) $x^2 - 5x + 6 = 0$

26. Three numbers in A.P. have sum 24. The middle term is (A) 6 (B) 8 (C) 3 (D) 2 ( )

27. If nth term of an A.P. is $2n + 7$, then 7th term of the A.P. is (A) 15 (B) 21 (C) 28 (D) 25 ( )

28. If nth term of the A.P. 4, 7, 10, _____ is 82, then the value of n is ( )
(A) 29 (B) 27 (C) 30 (D) 26

29. If a, b and c are in A.P. then ( )
(A) $a = \frac{b+c}{2}$ (B) $b = \frac{a+c}{2}$ (C) $c = \frac{b+a}{2}$ (D) $a = b + c$

30. 12th term of the A.P. $x - 7$, $x - 2$, $x + 3$ is ( )
(A) $x + 62$ (B) $x - 48$ (C) $x + 48$ (D) $x - 62$

31. P is a point on x axis at a distance of 3 unit from y axis to its left. The coordinates of P are ( )
(A) (3, 0) (B) (0, 3) (C) (–3, 0) (D) (0, –3)

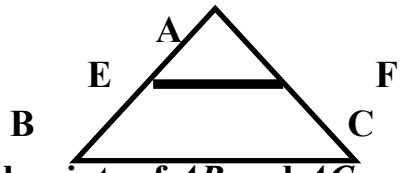
32. The distance of point P (3, –2) from y-axis is ( )
(A) 3 units (B) 2 units (C) –2 units (D 13 units

33. The coordinates of two points are (6, 0) and (0, –8). The coordinates of the mid point are ( )
(A) (3, 4) (B) (3, –4) (C) (0, 0) (D) (–4, 3)

34. If the distance between (4, 0) and (0, x) is 5 units, the value of x will be ( )
(A) 2 (B) 3 (C) 4 (D) 5

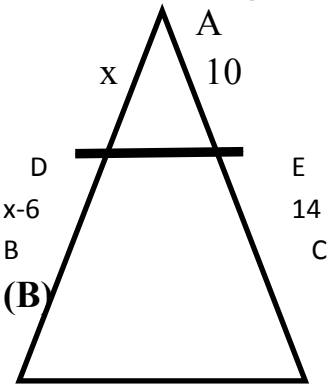
35. The area of triangle OAB, the coordinates of the points A (4, 0) B (0, –7) and O origin, is ( )
(A) 11 sq. units (B) 18 sq. units (C) 28 sq. units (D) 14 sq. units

36. In the figure, if $AE/EB = AF/FC$ then we can conclude that ( )



(A) E and F are the mid-points of AB and AC respectively (B) $EF \parallel BC$
(C) $EF / BC = AB / AC$ (D) none of the above

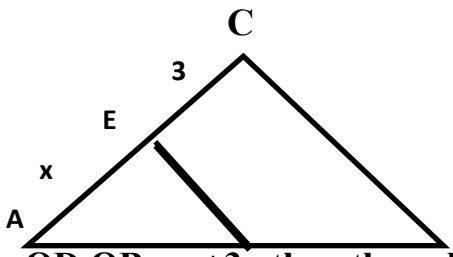
37. In the triangle ABC, $DE \parallel BC$, then the length of DB is ( )



(A) 2.5 cm (B) (C) 3.5 cm (D) 3 cm

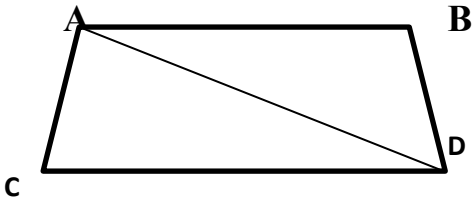
K.SREENIVASA RAJU 9441637668

38.In ΔABC, if $DE \parallel BC$, then the value of x is ( )



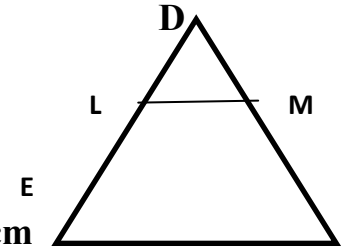
(A) 4
(B) 6
(C) 8
(D) 9

39.In the trapezium $ABCD$, $AB \parallel CD$, AO = x, OC = x-3= OD,OB = x+3, then the value of x is ( )



(A) 2 **(B) 3** **(C) –2** **(D) –3**

40.In the ΔDEF, $LM \parallel EF$ and DM / MF=2 / 3. If DE = 5.5 cm, then DL is ( )



(A) 2.5 cm **(B) 2.4 cm** **(C) 2.2 cm** **(D) 2 cm**

41.If tangent PA and PB from a point P to a circle with centre O are inclined to each other at an angle of 80°, then ∠POA is equal to
(A) 50° (B) 60° (C) 70° (D) 80° ( )

42.From a point T, the length of the tangent to a circle is 24 cm and the distance of T from the centre is 25 cm. The radius of the circle is
(A) 7 cm (B) 12 cm (C) 15 cm (D) 24.5 cm ( )

43.At one end of a diameter AB of a circle of radius 5 cm, tangent XAY is drawn to the circle. The length of the chord, parallel to XY and at a distance of 8 cm from A is
(A) 4 cm (B) 5 cm (C) 6 cm (D) 8 cm ( )

44. If angle between two radii of a circle is 130°, the angle between the tangents at the ends of the redii is
(A) 90° (B) 50° (C) 70° (D) 40° ( )

45. In the figure, AB is a chord of the circle and AOC is its diameter such that ∠ACB = 50°. If AT is the tangent to the circle at the point A, then ∠BAT is equal to
(A) 65° (B) 60° (C) 50° (D) 40° ( )

46.**A funnel is combination of** ( )

(A) a cone and a cylinder **(B) frustum of a cone and a cylinder**
(C) a hemisphere and a cylinder **(D) a hemisphere and a cone**

47.The shape of a bucket is usually in the form of ( )

(A) a cone **(B) frustum of a cone** **(C) a cylinder** **(D) a sphere**

48.A flask used in the laboratory is the combination of ( )

(A) a cylinder and a cone **(B) a sphere and a cone**
(C) a sphere and a cylinder **(D) frustum of a cone and a sphere**

49.The ratio of the volumes of two spheres is 8 : 27. The ratio between their surface areas is ( )

(A) 2 : 3 (B) 4 : 27 (C) 8 : 9 (D) 4 : 9

50.The curved surface area of a cylinder is 264 m^2 and its volume is 924 m^3. The height of the pillar is ( )

(A) 3 m (B) 4 m (C) 6 m (D) 8 m

51.If cos $A = 4/5$, then the value of tan A is

(A) $3/5$ (B) $3/4$ (C) $4/3$ (D) $5/3$ ( )

52.If sin θ = ab, then cos θ is equal to

(A) $\frac{b}{\sqrt{a^2+b^2}}$ (B) $\frac{a}{\sqrt{a^2+b^2}}$ (C) $\frac{b}{a}$ (D) $\frac{\sqrt{a^2+b^2}}{b}$ ( )

53.The value of tan A is always less than 1 ( )

(A) false (B) true (C) sometimes true, sometimes false (D) none of the above

54.Maximum value of sin θ is

(A) more than 1 (B) less than 1 (C) equal to 1 (D) none of these ( )

55.Minimum value of sin θ, where θ is acute, is ( )

(A) zero (B) more than 1 (C) equal to 1 (D) less than 1

56.If 4 tan θ = 3, then $\frac{4\sin\theta-\cos\theta}{4\sin\theta+\cos\theta}$ is equal to (A) 2/3 (B) 1/3 (C) 1/2 (D) ¾ ( )

57.If θ is an acute angle such that $\sec^2\theta = 3$, then $\tan^2\theta - \cos^2\theta / \tan^2\theta + \cos^2\theta$ ( )

(A) 4/7 (B) 3/7 (C) 2/7 (D) 1/7

58.sin θ = 4/3 for some angle θ, is ( )

(A) true (B) false (C) it is not possible to say anything about it definitely

(D) neither (A) nor (B)

59.If cot θ = 4/3, then $\cos^2\theta - \sin^2\theta$ is equal to (A) 7/25 (B) 1 (C) – 7/25 (D) 4/25 ( )

60.If sin A = 12, then the value of cot A is (A) $\sqrt{3}$ (B) $1/\sqrt{3}$ (C) $\sqrt{3}/2$ (D) 1 ( )

61.**The length of the shadow of a man is equal to the height of man. The angle of elevation is** ( )

(A) 90° (B) 60° (C) 45° (D) 30°

62.The length of the shadow of a pole $30m$ high at some instant is $10\sqrt{3}$ m. The angle of elevation of the sun is ( )

(A) 30° (B) 60° (C) 45° (D) 90°

63.Find the angle of depression of a boat from the bridge at a horizontal distance of 25m from the bridge, if the height of the bridge is 25m. ( )

(A) 45° (B) 60° (C) 30° (D) 15°

64.The tops of two poles of height 10m and 18m are connected with wire. If wire makes an angle of 30° with horizontal, then length of wire is ( )

(A) 10m (B) 18m (C) 12m (D) 16m

65.If E is an event then P(E) + P (E NOT) = …… ? ( )

(A) 0 (B) 1 (C) 2 (D) –1

66.The probability of an event that is certain to happen is ( )

(A) 0 (B) 2 (C) 1 (D) –1

67.If P(E) is0 .65 what is P (Not E)? ( )

(A)0 .35 (B) 0.25 (C) 1 (D) 0

68.A bag contains 9 Red and 7 blue marbles. A marble is taken out randomly, what is the P (red marble)? ( )

(A) $\frac{7}{16}$ (B) $\frac{9}{16}$ (C) $\frac{18}{16}$ (D) $\frac{14}{16}$

K.SREENIVASA RAJU 9441637668

69.The probability of an impossible event is **( )**

(A) 0 **(B) 1** **(C) −1** **(D) ∝**

70.Mean of first 10 natural numbers is **( )**

(A) 5 **(B) 6** **(C) 5.5** **(D) 6.5**

71.If mean of 4, 6, 8, 10, *x*, 14, 16 is 10 then the value of '*x*' is **( )**

(A) 11 **(B) 12** **(C) 13** **(D) 9**

72.The mean of *x*, *x* + 1, *x* + 2, *x* + 3, *x* + 4, *x* + 5 and *x* + 6 is **( )**

(A) *x* **(B) *x* + 3** **(C) *x* + 4** **(D) 3**

73.The median of 2, 3, 2, 5, 6, 9, 10, 12, 16, 18 and 20 is **( )**

(A) 9 **(B) 20** **(C) 10** **(D) 9.5**

74.The median of 2, 3, 6, 0, 1, 4, 8, 2, 5 is **( )**

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

75. Mode of first 10 natural numbers is **( )**

(A) 5 **(B) 6** **(C) 5.5** **(D) No mode**

TEST 10

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46		71	
22		47		72	
23		48		73	
24		49		74	
25		50		75	

K.SREENIVASA RAJU **9441637668**

TEST 11

1. $\frac{16}{125}$ is …….. decimal. ( )

A) terminating B) non-terminating, recurring C) non-terminating, non-recurring D)none

2. $\frac{100}{81}$ is …….. decimal. ( )

A) terminating B) non-terminating, recurring C) non-terminating, non-recurring D)none

3.Let p be a prime. If p divides a^2,(where a is a positive integer) then p divides ( )

A) a B)a^2 C)2a D)$\sqrt{a}$

4.Which of the following is a rational ( )

A)5-$\sqrt{3}$ B) $3\sqrt{2}$ C) $\sqrt{2}+\sqrt{3}$ D)5+$\sqrt{4}$

5..$\log_2 512$ = ( )

A) 8 B) 7 C) 9 D) 10

6.$\log_7 1$ = A) 0 B) 1 C) 7 D) 8 ( )

7.7x11x13 +13 is …… a number. ( )

A) composite B) prime C) both D) none

8.$\log_2 2$ = A) 0 B) 1 C) 2 D) 4 ( )

9.Logarithmic form of $\sqrt{49} = 7$ is . ( )

A) $\log_{49} 7 = 2$ B) $\log_7 49 = 2$ C)$\log_7 49 = \frac{1}{2}$ D) $\log_{49} 7 = \frac{1}{2}$

10.The exponential form of $\log_a \sqrt{x} = b$ is ( )

A) a^x=b B)$\sqrt{x^a}$=b C) a^b=$\sqrt{x}$ D) $a^{\sqrt{x}}$=b

11. Which is not true ? A.N⊂ W B.Z⊂Q C.Q⊂Q^1 D.Q^1⊂R ( )

12.Which is a subset of every set? A. ∅ B.μ C.{O} D.NONE ( )

13.If A⊂ B and B ⊂ A then A.A ≠ B B. A =∅ C.B = ∅ D.A = B ( )

14.Which of the following are true ? A.{ } = ∅ B. ∅ = 0 C. 0 = {0} D. ∅ = μ ( )

15.A = { Quadrilaterals} B = {Square, rectangle,trapezium, rhombus}.

Which of the following are true ? A.A⊂ B B.B ⊂ A C.A = B D.none ( )

16. Cubic polynomial $x = f(y)$ cuts y-axis at almost ( )

(a) one point (b) two points (c) three points (d) four points

17. Polynomial $x^2 + 1$ has ___ zeros ( )

(a) only one real (b) no real

(c) only two real (d) one real and theother non-real.

18. If α, β are the zeros of the polynomials $f(x) = x^2 + x + 1$ then $\frac{1}{\alpha}+\frac{1}{\beta}$ = ( )

(a) 1 (b) –1 (c) 0 (d) none

19. If one of the zero of the polynomial $g(x) = (k^2 + 4)x^2 + 13x + 4k$ is reciprocal of the other then k (a) 2 (b) – 2 (c) 1 (d) – 1 ( )

20. If 2 is a zero of both the polynomial, $3x^2 + ax – 14$ and $2x – b$ then $a – 2b$ = ___ ( )

(a) –2 (b) 7 (c) –8 (d) –7

21. The pair of linear equations $x = y$ and $x + y = 0$ has ( )

(A) no common solution (B) infinitely many solutions

(C) unique solution (D) none

22. One of the common solution of $ax + by = c$ and y-axis is _____ ( )

(A)$(0,\frac{c}{b})$ (B)$(0,\frac{-c}{b})$ (C)$(\frac{c}{b}, 0)$ (D)$(0,\frac{b}{c})$

K.SREENIVASA RAJU 9441637668

23. For $x = 2$ in $2x - 8y = 12$ the value of y will be

(A) –1 (B) +1 (C) 0 (D) 2 ( )

24. The pair of linear equations is said to be inconsistent if they have ( )

(A) only one solution (B) no solution

(C) infinitely many solutions. (D) both *a* and *c*

25. On representing $x = a$ and $y = b$ graphically we get ____ ( )

(A) parallel lines (B) coincident lines

(C) intersecting lines at (*a, b*) (D) intersecting lines at (*b, a*)

26. Roots of the equations $x^2 - 3x + 2 = 0$ are ( )

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

27. If the roots of a quadratic equation are equal, than discriminant is ( )

(A) 1 (B) 0 (C) greater than 0 (D) less than zero

28.If one root of $2x^2 + kx + 1 = 0$ is $\frac{1}{2}$ then the value of 'k' is ( )

(A) 3 (B) –3 (C) 5 (D) –5

29.The sum of the roots of the quadratic $5x^2 - 6x + 1 = 0$ is ( )

(A) $\frac{6}{5}$ (B) $-\frac{6}{5}$ (C) $\frac{1}{5}$ (D) $-\frac{1}{5}$

30.The product of the roots of the quadratic equation $2x^2 + 5x - 7 = 0$ is ( )

(A) $\frac{5}{2}$ (B) $-\frac{5}{2}$ (C) $\frac{7}{2}$ (D) $-\frac{7}{2}$

***31.n*th term of the A.P. –5, –2, 1, _____ is ( )**

(A) $3n + 5$ (B) $8 - 3n$ (C) $8n - 5$ (D) $3n - 8$

32.If *n*th term of an A.P. is $5 - 3n$, then common difference of the A.P. is ( )

(A) 2 (B) –3 (C) –2 (D) 3

33.If 5, $2k - 3$, 9 are in A.P., then the value of 'k' is ( )

(A) 4 (B) 5 (C) 6 (D) –5

34.Sum of first 10 natural numbers is ( )

(A) 50 (B) 55 (C) 60 (D) 65

35.9th term from the end of the A.P. 7, 11, 15, _____ 147 is ( )

(A) 135 (B) 125 (C) 115 (D) 110

36.The distance between the line $2x + 4 = 0$ and $x - 5 = 0$ is ( )

(A) 9 units (B) 1 unit (C) 5 units (D) 7 units

37.The distance between the points (5 cos 35°, 0) and (0, 5 cos 55°) is ( )

(A) 10 units (B) 5 units (C) 1 unit (D) 2 units

38. The points (–4, 0), (4, 0) and (0, 3) are the vertices of a ( )

(A) right triangle (B) Isosceles triangle

(C) equilateral triangle (D) Scalene triangle

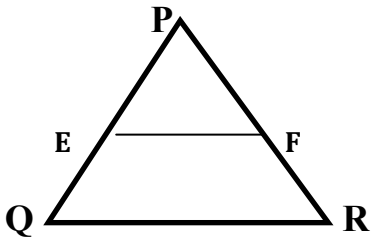
39.The perimeter of triangle formed by the points (0, 0), (2, 0) and (0, 2) is ( )

(A) 4 units (B) 6 units (C) $6\sqrt{2}$ units (D) $4 + 2\sqrt{2}$ units

***40.AOBC* is a rectangle whose three vertices are A (0, 3), 0 (0, 0), B (5, 0) The length of its diagonal is ( )**

(A) 5 units (B) 3 units (C) $\sqrt{34}$ units (D) 4 units

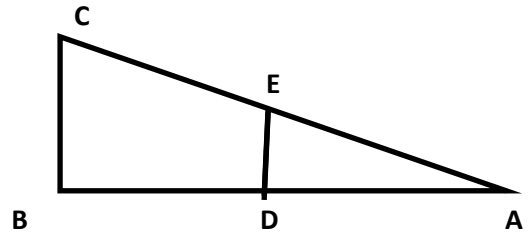
41.**In the given figure, $PQ = 1.28$ cm, $PR = 2.56$ cm, $PE = 0.18$ cm and $PF = 0.36$ cm, then ( )**



(A) EF is not parallel to QR **(B) $EF \parallel QR$**

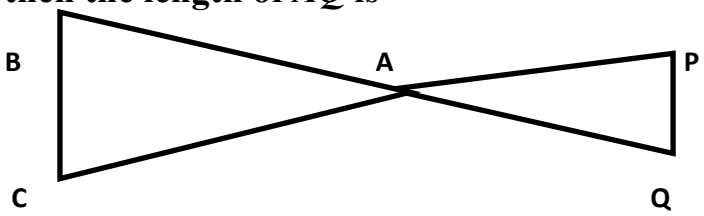
(C) cannot say anything **(D) none of the above**

42.In the given figure, if ΔADE ~ ΔABC,AE = 1.5,EC = 3, ED =1.2 then BC is equal to **( )**



(A) 4.5` (B) 3 (C) 3.6 (D) 2.4

43.In the given figure. $\Delta ACB \sim \Delta APQ$. If BC = 8 cm, PQ = 4 cm, BA = 6.5 cm and AP = 2.8 cm, then the length of AQ is **( )**



(A) 3.25 cm (B) 4 cm (C) 4.25 cm (D) 3 cm

44. If $\Delta ABC \sim \Delta PQR$ and $\angle P = 50°$, $\angle B = 60°$, then $\angle R$ is **( )**

(A) 100° (B) 80° (C) 70° (D) cannot be determined

45.A tangent AB at a point A of a circle of radius 5 cm meets a line through the centre O at a point B so that OB = 12 cm. Length PB is

(A) 10 cm (B) 12 cm (C) 9 cm (D)$\sqrt{119}$ cm **( )**

46.The length of the tangent drawn from a point, whose distance from the centre of a circle is20 cm and radius of the circle is 16 cm, is

(A) 12 cm (B) 144 cm (C) 169 cm (D) 25 cm **( )**

47. A tangent PQ at a point P of a circle of radius 15 cm meets a line through the centre O at a point Q so that OQ = 25 cm. Length of PQ is

(A) 5 cm (B) 25 cm (C) 16 cm (D) 20 cm **( )**

48.In a circle of radius 7 cm, tangent LM is drawn from a point L such that LM = 24 cm. If O is the centre of the circle, then length of OL is

(A) 20 cm (B) 24 cm (C) 25 cm (D) 26 cm **( )**

49.PT is a tangent to a circle with centreO. If OT = 6 cm, and OP = 10 cm, then the length of tangent PT is

(A) 8 cm (B) 12 cm (C) 10 cm (D) 16 cm **( )**

50.Volumes of two spheres are in the ratio 27 : 64. The ratio of their surface areas is

(A) 3 : 4 (B) 4 : 3 (C) 9 : 16 (D) 16 : 9

51.If two solid hemispheres of same base radius *r* are joined together along their bases, then curvedsurface area of the new solid is ( )

(A) $4\pi r^2$ (B) $6\pi r^2$ (C) $3\pi r^2$ (D) $8\pi r^2$

52.The total surface area of a hemisphere of radius 7 cm is ( )

(A)447πcm^2 (B) 239πcm^2 (C) 147πcm^2 (D) 174πcm^2

53.The ratio of the total surface area to the lateral surface area of a cylinder with base diameter 160 cm and height 20 cm is ( )

(A)1 : 2 (B) 2 : 1 (C) 3 : 1 (D) 5 : 1

54.The radius of the base of a cone is 5 cm and its height is 12 cm. Its curved surface area is ( )

(A) 30 πcm^2 (B) 65 π cm^2 (C) 80 πcm^2 (D) none of these

55.If $a = b \tan\theta$, then $\frac{asin\theta+bcos\theta}{asin\theta-bcos\theta}$ = (A) $\frac{a^2+b^2}{a^2-b^2}$ (B) $\frac{a^2-b^2}{a^2+b^2}$ (C) $\frac{a+b}{a-b}$ (D) $\frac{a-b}{a+b}$ ( )

56.If $\sin\theta = 3/5$, then the value of $(\tan\theta + \sec\theta)^2$ is equal to

(A) 1 (B) 1/2 (C) 2 (D) –2 ( )

57. $\frac{1-sin^2 45}{1+sin^2 45}$ =

(A) cos 60° (B) sin 60° (C) tan 30° (D) sin 30° ( )

58.The value of (sin 30° + cos 30°) – (sin 60° + cos 60°) is (A) –1 (B) 0 (C) 1 (D) 2 ( )

59.The value of (sin 45° + cos 45°) is (A) $1/\sqrt{2}$ (B) $\sqrt{2}$ (C) $\sqrt{3}/2$ (D) 1 ( )

60..If *x* tan 45°.cos 60° = sin 60°.cot 60°, then *x* is equal to

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

61.The value of tan30/cos60is (A) $1/\sqrt{2}$ (B) $1/\sqrt{3}$ (C) $\sqrt{3}$ (D) 1 ( )

62.The value of sin45°/cosec45° is (A) 1 (B) 12 (C) $\sqrt{2}$ (D) none of these ( )

63..The value of (sin 45° cos 30° + cos 45° sin 30°) is

(A)$\frac{\sqrt{3}+1}{\sqrt{2}}$ (B) $\frac{\sqrt{3}}{\sqrt{2}}$ (C)$\frac{\sqrt{3}+1}{2\sqrt{2}}$ (D) $\frac{\sqrt{3}-1}{2\sqrt{2}}$ ( )

64..The value of (sin 30° cos 60° + cos 30° sin 60°) is :

(A) Sin 90° (B) Cos 90°(C) Sin 0° (D) Cos 30° ( )

65. From a point 20m away from the foot of the tower, the angle of elevation of the top of the tower is 30°. The height of the tower is ( )

(A) $20\sqrt{3}$ (B) $40\sqrt{3}$ (C) $\frac{20}{\sqrt{3}}$ (D) $\frac{40}{\sqrt{3}}$

66.The ratio of the length of a tree and its shadow is 1:$\frac{1}{\sqrt{3}}$The angle of elevation of the sun is ( )

(A) 30° (B) 45° (C) 60° (D) 90°

67.A kite is flying at a height of 50 $\sqrt{3}$ *m* above the level ground, attached to string inclined at 60° to the horizontal, the length of string is ( )

(A) 100 m (B) 50 m (C) 150 m (D) 75 m

68.A tree is broken at a height of 10 m above the ground. The broken part touches the ground and makes an angle of 30° with the horizontal. The height of the tree is( )

(A) 30 m (B) 20 m (C) 10 m (D) 15 m

69.If a letter of English alphabet is chosen at random, then the probability that the letter is a consonant is ( )

(A) $\frac{5}{26}$ (B) $\frac{21}{26}$ (C) $\frac{10}{13}$ (D) $\frac{11}{13}$

70.If two coins are tossed simultaneously, then the probability of getting at least one head is

(A) $\frac{3}{4}$ (B) $\frac{1}{2}$ (C) $\frac{1}{4}$ (D) 1 ( )

K.SREENIVASA RAJU 9441637668

71.Two dice are thrown simultaneously. Probability of getting a prime number on both dice is

(A) $\frac{5}{18}$ **(B)** $\frac{2}{9}$ **(C)** $\frac{1}{3}$ **(D)** $\frac{1}{4}$ **( )**

72.Two coins are tossed together. The probability of getting head on both is ( )

(A) $\frac{3}{4}$ **(B)** $\frac{1}{2}$ **(C)** $\frac{1}{4}$ **(D) 0**

73.The probability that a leap year has 53 Sundays is ( )

(A) $\frac{1}{7}$ **(B)** $\frac{2}{7}$ **(C)** $\frac{3}{7}$ **(D)** $\frac{4}{7}$

74.Mode of 1, 0, 2, 2, 3, 1, 4, 5, 1, 0 is ( )

(A) 5 (B) 0 (C) 1 (D) 2

75.If the mode of 2, 3, 5, 4, 2, 6, 3, 5, 5, 2 and *x* is 2 then the value of '*x*' is ( )

(A) 2 (B) 3 (C) 4 (D) 5

TEST 11

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46		71	
22		47		72	
23		48		73	
24		49		74	
25		50		75	

K.SREENIVASA RAJU **9441637668**

TEST 12

1. Which of the following numbers is irrational number ( )

A) 3.131131113... B) 4.46363636... C) 2.35 D) *B* and *C* both

2.A terminating decimal when expressed in fractional form always has Denominator in the form of — ( )

A) 2^m3^n, m, n > 0 B) 3^m5^n, m, n > 0 C) $5^n 7^m$, m, n > 0 D) 2^m5^n, m, n > 0

3. HCF is always ( )

A) Multiple of L.C.M. B) Factor of L.C.M. C) Divisible by L.C.M. D) *A* and *C* both

4. 7X11X13X15 +15 is a ( )

A) Composite number B) Whole number C) Prime number D) None of these

5. HCF of two numbers is 113, their LCM is 56952. It one number is 904. The other number is: ( )

A) 7719 B) 7119 C) 7791 D) 7911

6.2.13113111311113……is ( )

A) a rational number B) a non-terminating decimal number

C) an irrational number D) both (A) & (C)

7.$\pi$is ( )

A) rational B) irrational C) both (A) & (B) D) neither rational nor irratio

8. 7.7 ia a ( )

a. Rational b. Irrational c. Both d. Neither rational nor irrational

9.Let A = {a,b,c,d}. How many subsets does the set A have? ( )

A.5 B.6 C.16 D.64

10.P is a set of factors of 5, Q is a set of factors of 25,R is a set of factors of 125. Which of the following are false ? A.P⊄ Q B.Q⊄ R C.R⊄ P D.P⊄ R ( )

11.If A⊄ B and B ⊄ C then A.A⊄ C B.C ⊄ A C.A = C D.none

12.Which of the following are false given that A = {1,2,3,4}. ( )

A.2∈ A B.2∉ {1,2,3,4} C.A⊄ {1,2,3,4} D.{2,3,4}⊄ {1,2,3,4}

13..A and B are disjoint sets then A∩B = A.A B.B C. ∅ D. μ

14. If zeros of the polynomial $ax^2 + bx + c$ are reciprocal of each other then ( )

(a) $a = c$ (b) $a = b$ (c) $b = c$ (d) $a = -c$

15. The zeros of the polynomial $h(x) = (x - 5)(x^2 - x - 6)$ are ( )

(a) –2, 3, 5 (b) –2, –3, –5 (c) 2, –3, –5 (d) 2, 3, 5

16. Graph of $y = ax^2 + bx + c$ intersects x-axis at 2 distinct points if ( )

(a) $b^2 - 4ac > 0$ (b) $b^2 - 4ac < 0$ (c) $b^2 - 4ac = 0$ (d) none

17. Which of the following is polynomial? ( )

(a) $x^2 - 6\sqrt{x} + 2$ (b)$\sqrt{x} + \frac{1}{\sqrt{x}}$ (c)$\frac{5}{x^{2+3x+1}}$ (d) none of these

18. For $2x + 3y = 4$, y can be written in terms of x as— ( )

(A)y= $\frac{4+2x}{3}$ (B) y=$\frac{4-2x}{3}$ (C) x=$\frac{4-2y}{3}$ (D) x=$\frac{4+2y}{3}$

19. The pair of linear equations $x = 2$ and $x = 5$ has ( )

(A) no common solution (B) infinitely many solutions

(C) unique solution (D) none

K.SREENIVASA RAJU 9441637668

20.The coordinates of the point where *x*-axis and the line represented by $\frac{x}{2} + \frac{y}{3} = 1$ intersect, are (A) (0, 3) (B) (3, 0) (C) (2, 0) (D) (0, 2) ( )

21. Gr aphically $x - 2 = 0$ represents a line ( )

(A) parallel to *x*-axis at a distance 2 units from *x*-axis.

(B) parallel to *y*-axis at a distance 2 units from it.

(C) parallel to *x*-axis at a distance 2 units from *y*-axis.

(D) parallel to *y*-axis at a distance 2 units from *x*-axis

22.Which of the following is not a linear equation? ( )

(A)5+4x=y=3 (B)x+2y=y-x (C)3-x=y^2+4 (D)x+y=0

23.. If the roots of the quadratic $2x^2 + kx + 2 = 0$ are equal then the value of '*k*' is( )

(A) 4 (B) −4 (C) ± 4 (D) ± 16

24.If the sum and product of roots of a quadratic equation are $-\frac{7}{2}$ and $\frac{5}{2}$ respectively, then the equation is ( )

(A) $2x^2 + 7x + 5 = 0$ (B) $2x^2 - 7x + 5 = 0$ (C) $2x^2 - 7x - 5 = 0$ (D) $2x^2 + 7x - 5 = 0$

25..If a and b are the roots of the equation $5x^2 - 7x + 1 = 0$, then the value of $\frac{1}{\alpha} + \frac{1}{\beta}$ is( )

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

26. If the roots of the quadratic equation. $ax^2 + bx + c = 0$ are equal then ( )

(A) $b^2 = 4bc$ (B) $a^2 = 4bc$ (C) $c^2 = 4ab$ (D) $b^2 = 4ac$

27.If the quadratic equation $ax^2 + bx + c = 0$has a real root, then $b^2 - 4ac$must be( )

(A) ≥ 0 (B) = 0 (C) ≤ 0 (D) >0

28.The sum of 3 numbers in A.P. is 30. If the greatest number is 13, then its common difference is (A)4 (B) 3 (C)2 (D) 5 ( )

29.The sum of 6th and 7th terms of an A.P. is 39 and common difference is 3, then the first term of the A.P. is (A) 2 (B) −3 (C) 4 (D) 3 ( )

30.2,…. , 26 the missing term in AP is ( )

(A) 12 (B) 13 (C) 14 (D) 18

31.The common difference of the A.P. 3, 1, −1, −3 … is ( )

(A) −2 (B) 2 (C) −1 (D) 3

32.The general form of an A.P. is ( )

(A) $a, a - d, a - 2d, a - 3d, \ldots$ (B) $a, a + d, a + 2d, a + 3d, \ldots$

(C) $a, 2d, 3d, 4d, \ldots$ (D) none of these

33.If the centroid of the triangle formed by (9, *a*), (*b*, −4) and (7, 8) is (6, 8) then (*a, b*) is

(A) (4, 5) (B) (5, 4) (C) (5, 2) (D) (3, 2)

34.The distance between the points ($Cos\theta$, $Sin\theta$) and ($Sin\theta$, - $Cos\theta$) is ( )

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

35.The area of Δ whose vertices are (1,-1),(-4,6) and (-3,-5) is ( )

(A) 21 (B) 32 (C) 24 (D) 25

36.The area of Δ whose vertices are (1,-1),(-4,6) and (-3,-5)is ( )

(A) 21 (B) 32 (C) 24 (D) 25

37.The coordinates of the point which divides the join of (-1,7) and (4,-3) in the ratio 2:3 is ( )

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

38. ΔABC ~ ΔDEF such that AB = 9.1 cm and DE = 6.5 cm. If the perimeter of ΔDEF is 25 cm, then perimeter of ΔABC is ( )

(A) 35 cm (B) 28 cm (C) 42 cm (D) 40 cm

K.SREENIVASA RAJU **9441637668**

39.If Δ*ABC* ~ Δ*EDF* and Δ*ABC* is not similar to Δ*DEF*, then which of the following is not true? **( )**

(A) $BC.\ EF = AC.\ FD$ **(B)** $AB.\ EF = AC.\ DE$

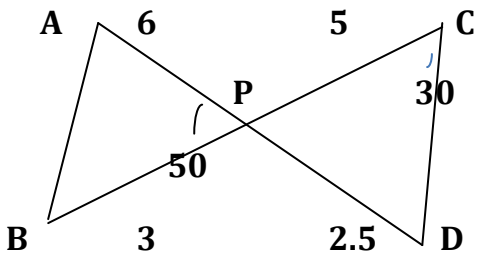
(C) $BC.\ DE = AB.\ EF$ **(D)** $BC.\ DE = AB.\ FD$

40.If in two triangles ABC and PQR, $AB / QR = BC/ PR = CA/ PQ$ **, then ( )**

(A) $\Delta PQR \sim \Delta CAB$ **(B)** $\Delta PQR \sim \Delta ABC$

(C) $\Delta CBA \sim \Delta PQR$ **(D)** $\Delta BCA \sim \Delta PQR$

41.In the given figure, two line segments, *AC* and *BD* intersect each other at the point *P* such that *PA* = 6 cm, *PB* = 3 cm, *PC* = 2.5 cm, *PD* = 5 cm, ∠*APB* = 50º and ∠*CDP* = 30º. Then ∠*PBA* is equal to **( )**



(A) 50° **(B) 30°** **(C) 60°** **(D) 100°**

42.If in triangles *ABC* and *DEF*, $\frac{AB}{DE} = \frac{BC}{FD}$**, then they will be similar, when ( )**

(A) ∠B = ∠E **(B) ∠A = ∠D** **(C) ∠B = ∠D** **(D) ∠A = ∠F**

43.is the centre of two concentric circles of radii 3 cm and 5 cm. PQ is a chord of outer circle which touches the inner circle. The length of chord PQ is (A) 5 cm (B) 8 cm (C) 10 cm (D) $\sqrt{34}$ **cm ( )**

44.. TP and TQ are two tangents to a circle with centre O, so that ∠POQ = 140°. ∠PTO is equal to

(A) 40° **(B) 50°** **(C) 60°** **(D) 70°** **()**

45..Quadrilateral PQRS is circumscribed, touching the circle at A, B, C and D. If AP = 5 cm, QR = 7 cm and DR = 3 cm, then length PQ is equal to ( )

(A) 9 cm **(B) 8 cm** **(C) 13 cm** **(D) 14 cm**

46.. The pair of tangents PA and PB drawn from an external point P to a circle with centreO ,are perpendicular to each other and length of each tangent is 5 cm. The radius of the circle is (A) 10 cm (B) 7.5 cm (C) 5 cm (D) 2.5 cm ( )

47..From a point P which is at a distance of 13 cm from the centre O of a circle of radius 5 cm, the pair of tangents PQ and PR to the circle are drawn. The area of the quadrilateral PQOR is

(A) 60 cm² **(B) 65 cm²** **(C) 30 cm²** **(D) 32.5 cm²** **( )**

48.If a cone is cut into two parts by a horizontal plane passing through the mid-points of its axis, the ratio of the volumes of the upper part and the cone is ( )

(A) 1 : 2 **(B) 1 : 4** **(C) 1 : 6** **(D) 1 : 8**

49.A cone, a hemisphere and a cylinder stand on equal bases and have the same height. The ratio of their volumes is ( )

(A) 3 : 2 : 1 **(B) 1 : 3 : 2** **(C) 2 : 3 : 1** **(D) 1 : 2 : 3**

50.A solid piece of iron in the form of a cuboid of dimensions 49 cm × 33 cm × 24 cm is moulded to form a solid sphere. The radius of the sphere is ( )

(A) 25 cm (B) 21 cm (C) 19 cm (D) 23 cm

51.The volume of a sphere (in cu. cm) is equal to its surface area (in sq. cm). The diameter of the sphere (in cm) is ( )

(A) 3 (B) 6 (C) 2 (D) 4

52.A shuttle cock used for playing badminton has the shape of the combination of ( )

(A) a cylinder and a sphere (B) a sphere and a cone

(C) a cylinder and a hemisphere (D) a hemisphere and frustum cone

53. $\sqrt{\frac{1-\sin 60}{2}}$ = (A) Sin 60° (B) Sin 30° (C) Sin 90° (D) Sin 0° ( )

54. The value of $3\sin 30° - 4\sin^3 30°$ is (A) 1 (B) 0 (C) 2 (D) 1/2 ( )

55. The value of $\sin 18°/\cos 72°$ is (A) 1 (B) 0 (C) –1 (D) ½ ( )

56. cos 48° – sin 42° is (A) 1 (B) 0 (C) –1 (D) ½ ( )

57.The value of tan 80° .tan 75° . tan 15°. tan 10° is

(A) –1 (B) 0 (C) 1 (D) None Of These ( )

58.The value of tan26°/cot64° is (A) 0 (B) –1 (C) –1 (D) None Of These ( )

59. cosec 31° – sec 59° is equal to (A) 0 (B) 1 (C) –1 (D) ½ ( )

60.The value of (tan 2° tan 4° tan 6° ... tan 88°) is (A) 1 (B) 0 (C) 2 (D) Not Defined ( )

61. tan (40° + θ) – cot (40° – θ) is equal to (A) 1 (B) 0 (C) 2 (D) 12 ( )

62. The value of sin (50° + θ) – cos (40° – θ) is (A) 1 (B) 2 (C) 1/2 (D) 0 ( )

63.In the shadow of a tree is times the height of the tree, then find the angle of elevation of the sun. ( )

(A) 30° (B) 45° (C) 60° (D) 90°

64.The angle of elevations of a building from two points on he ground 9m and 16m away from the foot of the building are complementary, the height of the building is( )

(A) 18 m (B) 16 m (C) 10 m (D) 12 m

65.A pole 10 m high casts a shadow 10 m long on the ground, then the sun's elevation is

(A) 60° (B) 45° (C) 30° (D) 90° ( )

66.The angle of elevation of the top of a building 50 m high, from a point on the ground is 45°. The distance of the point from the foot of the building is ( )

(A) 100 m (B) 50 m (C) 45 m (D) 60 m

67.The probability of getting a number between 3 and 100 which is divisible by 7 is

(A) $\frac{1}{7}$ (B) $\frac{29}{98}$ (C) $\frac{25}{98}$ (D) $\frac{23}{98}$ ( )

68.In a throw of a pair of dice, what is the probability of getting a doublet ? ( )

(A) $\frac{1}{3}$ (B) $\frac{1}{6}$ (C) $\frac{5}{12}$ (D) $\frac{2}{3}$

69.A bag contains cards which are numbered from 2 to 90. A card is drawn at random from the bag. The probability that it bears a two digit number is ( )

(A) 88/92 (B) 88/90 (C) 81/89 (D) 89/90

70.Which of the following cannot be the probability of an event ? ( )

(A) 0 (B) 1/5 (C) 5/4 (D) 1

71.From a pack of 52 playing cards, a card is drawn at random. The probability, that the drawn card is not a face card is ( )

(A) 3/13 (B) 9/13 (C) 10/13 (D) ¾

K.SREENIVASA RAJU 9441637668

72.Class mark of the class 19.5 – 29.5 is **( )**

(A) 10 **(B) 49** **(C) 24.5** **(D) 25**

73.Measure of central tendency is represented by the abscissa of the point where the 'less than ogive' and 'more than ogive' intersect, is **( )**

(A) Mean **(B) Median** **(C) Mode** **(D) None Of These**

74.The median class of the following distribution is **( )**

Class Interval : 0–1010–20 20–30 30–40 40–50 50–60 60–70

Frequency : 4 4 8 10 12 8 4

(A) 20–30 **(B) 40–50** **(C) 30–40** **(D) 50–60**

75.The mean of 20 numbers is 17, if 3 is added to each number, then the new mean is

(A) 20 **(B) 21** **(C) 22** **(D) 24** **( )**

TEST 12

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46		71	
22		47		72	
23		48		73	
24		49		74	
25		50		75	

K.SREENIVASA RAJU **9441637668**

TEST 13

1. Which of the following numbers is rational number ( )

A) 3.131131113... B) 4.46363636... C) 2.35 D) *B* and *C* both

2.A terminating decimal when expressed in fractional form always has Denominator in the form of — ( )

A) 2^m3^n, m, n > 0 B) 3^m5^n, m, n > 0 C) $5^n\ 7^m$, m, n > 0 D) 2^m5^n, m, n > 0

3. HCF OF PRIME NUMBER ( )

A) 2. B) 3. C) 1 D) *5*

4.. 7×11×13×15 +13 is a ( )

A) Composite number B) Whole number C) Prime number D) None of these

5. HCF of two numbers is 113, their LCM is 56952. It one number is 904. The other number is: ( )

A) 7719 B) 7119 C) 7791 D) 7911

6. 21.2.13113111311113……is ( )

A) a rational number B) a non-terminating decimal number

C) an irrational number D) both (A) & (C)

7. π is ( )

A) rational B) irrational C) both (A) & (B) D) neither rational nor irratio

8. 7.77777…… ia a ( )

a. Rational b. Irrational c. Both d. Neither rational nor irrational

9.If A = {1,2,3,4} B = {2,4,6,8} then A∪B = ( )

A.{1,2,3,4,5,6,7,8} B.{2,4} C.{1,3,6,8} D.{1,3}

10.Let A = {1,3,7,8} B= {2,4,7,9} then A∩B = ( )

A.{1,2,3,4,6,7,8} B.{7} C.{1,3,8} D.{2,4,9}

11.If A= {6,9,11} then A∪ ∅ =____ A.A B. ∅ C. μ D.none ( )

12.If A= {2,3,5} then A∩ ∅ =__ A.A B. ∅ C. μ D.none ( )

13.Let A = {1,2,3,4,5} B= {4,5,6,7} then A−B = ( )

A.{1,2,3,4,5,6,7,} B.{4,5} C.{1,2,3} D.{6,7}

14.Which of the following are false?

A.A∪B=B∪A B.A∩B=B∩A C.A−B=B−A D.A∪ ∅ = *A* ( )

15.Let A= {1,2,3,4} B={2,4,6,8,} then .(A∪B)-(A∩B)= ( )

A.{1,2,3,4,6,8} B.{2,4} C.{1,3,6,8} D.{1,6,8}

16.n(A) = 5,n(B) = 5,n(A∩B) = 2 then n(A∪B) =

A.12 B.8 C.5 D.2 ( )

17..If A⊂ B then A∪B = A.A B.B C. ∅ D. μ ( )

18..If A⊂ B then A∩B = A.A B.B C. ∅ D. μ ( )

18. A solution for 2(x+3)=18? ( )

(A) 5 (B) 6 (C) 13 (D) 21

19. The value of x satisfies the equation 2x-(4-x)=5-x is ( )

(A) 4.5 (B) 3 (C) 2.25 (D) 0.5

20.The equation x-4y=5 has ( )

(A) no solution (B) infinitely many solutions

(C) unique solution (D) none

21.Which of the following is not a linear equation in one variable? ( )

(A)2x+1=y-3 (B)3t-1=2t=5(C)2x-1=x^2 (D)x^2-x+1=0

22.Value of x for x^2 -8x +15 = 0 is quadratic formula is ( )

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

23.The quadratic equation whose root are 3 and -3 is ( )

(A) x^2 - 9 = 0 (B) x^2 - 3x -3 = 0 (C) x^2 - 2x + 2 = 0 (D) x^2 + 9 = 0

24.The product of two Consecutive positive integers is 306. Representation is quadratic Equations ( )

(A) x^2 + x - 306 = 0 (B) x^2 - x + 306 = 0 (C) x^2 + 2x -106 = 0 (D) x^2 - x - 306 = 0

25.If$p(x)$ = 0 is a quadratic equation, then $p(x)$ is a polynomial of degree ( )

(A) one (B) two (C) three (D) four

26..Which of the following is a root of the equation $2x^2 – 5x – 3 = 0$? ( )

(A) x= 3 (B) x = 4 (C) x = 1 (D) x = –3

27.x= $\sqrt{2}$ is a solution of the equation ( )

(A) $x^2 + \sqrt{2}x - 4 = 0$ (B) $x^2 - \sqrt{2}x - 4 = 0$ (C) $3x^2 + 5x + 2 = 0$ (D) (A) and (B) both

28. Which of the following equations has 2 as a root? ( )

(A) x^2– 4x + 5 = 0 (B) x^2 + 3x – 12 = 0 (C) $2x^2 – 7x + 6 = 0$ (D) $3x^2 – 6x – 2 = 0$

29.The roots of $4x^2 + 4\sqrt{3}x + 3 = 0$ are ( )

(A) real and equal (B) real and unequal (C) not real (D) none of these

30. Discriminant of $x^2 + px + 2q = 0$ is ( )

(A) p– 8q (B) p^2 + 8q (C) $p^2 – 8q$ (D) $q^2 – 8p$

31..If the equation $x^2 + 4x + k = 0$ has real and distinct roots, then ( )

(A) k< 4 (B) k > 4 (C) k > 4 (D) k < 4

32.The common difference of the A.P. 8, 11, 14, 17, 20, ... is ( )

(A) 2 (B) –2 (C) 3 (D) –3

33.The sum of first 5 multiples of 3 is ( )

(A) 45 (B) 55 (C) 65 (D) 75

34.The sum of first n natural numbers is ( )

(A) n^2 (B) $\frac{n(n+1)}{2}$ (C) $\frac{n(n-1)}{2}$ (D)n(n+1)

35.Which of the following are not G.P.? ( )

(A) 6,12,24,48……B) 1,4,9,16, …… (C)1,-1,1,-1…D) -4,-20,-100,-500…

36.The common ratio of 25,-5,1,-1/5……. ( )

(A) -5 (B) 5 (C) -1/5 (D) 1/

37.The n th term of G.p ( )

(A) ar^{n-1} (B) ar^{n+1} (C) r^{n-1} (D) r^{n+1}

38.The n th term of G.p 5,25,125,……. ( )

(A) 5^{n-1} (B) 5^{n+1} (C) 5^n (D) 5

39.g_1,g_2,g_3 are three terms between in a and b then ab = ( )

(A) $g_2{}^2$ (B) g_1g_3 (C) both A ,B (D) none

40.If K^a,K^b, K^c are in G.P., then a,b,c are in (A) AP (B) GP (C) both A ,B(D) none ( )

41.Ifa,b,c are in GP then b = ( )

(A)$\frac{a+c}{2}$ (B) ac (C) $\sqrt{ac}$ (D) $\frac{a}{c}$

42.The coordinates of a point A, where AB is the diameters of a circle whose Centre (2,-3) and B is (1, 4) is ( )

(A) (3,-9) (B) (2,9) (C) (3,-10) (D) (4,5)

43.The ratio of the points of trisection of the line segment joining the points A(2,-2)and B(-7, 4) are (A) 1:2, 2:1 (B) 1:3, 3:1 (C) 1:1, 2:1 (D) 1:2, 1:2( )

44.The value of K if the points A(2,3), B(4,K)and C(6,-3) are collinear is ( )

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

45.The mid-point of the line segment joining (2a,4) and (-2,3b) is (1,2a +1) . The values of a and b is ( )

(A) a= 2,b = 2 (B) a =1,b = 3 (C) a = 2,b = 3 (D) a =1,b =1

46.Coordinate of A and B are (-3,a)and (1,a + 4). The mid-point of AB is (-1,1) . The value of a is (A) (-1) (B) (2) (C) (3) (D) (1) ( )

47.The ratio n which the points (2,-3)and (5,6) divided by the x - axis is ( )

(A) $\frac{1}{2}$:2 (B) 2:$\frac{1}{2}$ (C) 2 :1 (D) 1:2

48.The distance between P(a,7) and Q (1,3) is 5. The value of a is ( )

(A) (4, 2) (B) (-4,-2) (C) (4,-2) (D) (4,1)

49.On which axes point (-4,0) lie ( )

(A) x- *axis* (B) y - *axis* (C) both (D) none of these

50.The distance of the point (-4,-6) from the origin is ( )

(A) 53 (B) 2 $\sqrt{13}$ (C) 2 $\sqrt{12}$ (D)$\sqrt{13}$

51.The coordinates of the mid point of the line segment joining (-5,4) and (7,-8) is

(A) (1,-2) (B) (1,2) (C) (1,3) (D) (-1,-2)

52.Two vertices of a DABC are A(1,-1) and B(5,1). If the coordinates of its centroid be then the coordinates of the third vertex C is ( )

(A) (-1,-3) (B) (1,3) (C) (-1,3) (D) (1,2)

53.The abscissa of every point on y-axis is ( )

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

54.The ordinate of every point on x -axis is ( )

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

55.If the points (0, 0), (1, 2) and (x, y) are collinear then ( )

(A) $x = y$ (B) $2x = y$ (C) $x = 2y$ (D) $2x = –y$

56.The perimeter of a triangle with vertices (0, 4), (0, 0) and (3, 0) is ( )

(A) 8 (B) 10 (C) 12 (D) 15

57.The slope of the line joining the points (2,3), (4,5) is ( )

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

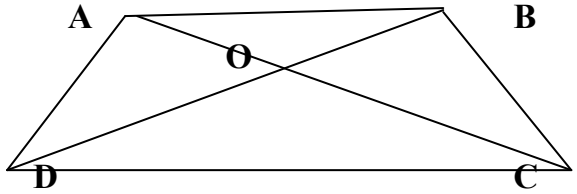
58.2 is the slope of the line through (2,5) and (x,3) then x = ( )

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

59.The areas of two similar triangles are 169 cm^2 and 121 cm^2, if the longest side of the larger triangle is 26 cm, then the longest side of the other triangle is ( )

(A) 12 cm (B) 14 cm (C) 19 cm (D) 22 cm

60.In the following trapezium $ABCD$, AB || CD and CD = 2AB. If area (ΔAOB) = 84 cm^2, then area (ΔCOD) is ( )



(A) 168 cm^2 (B) 336 cm^2 (C) 252 cm^2 (D) none of these

61.If ΔABC ~ ΔPQR, area (ΔABC) = 80 cm^2 and area (ΔPQR) = 245 cm^2, then $ABPQ$ is equal to ( )

(A) 16 : 49 (B) 4 : 7 (C) 2 : 5 (D) none of these

62.In the similar triangles, ΔABC and ΔDEF, $\frac{ar(\Delta ABC)}{ar(\Delta DEF)}=\frac{3}{4}$. If the median AL = 6 cm, then the median DM of ΔDEF is ( )

(A) $3\sqrt{2}cm$ (B) $4\sqrt{3}cm$ (C) $4\sqrt{2}cm$ (D) $3\sqrt{3}cm$

63.If a ladder of length 13 m is placed against a wall such that its foot is at a distance of 5 m from the wall, then the height of the top of the ladder from the ground is ( )

(A) 10 m (B) 11 m (C) 12 m (D) none of these

64. A teacher ask the students to find the average marks obtained by theclass students in Maths the student will find ( )

(A) Mean (B) Median (C) Mode (D) Sum

65.If diagonals of a rhombus are 12 cm and 16 cm, then the perimeter of the rhombus is :

(A)20 cm (B) 40 cm (C) 28 cm (D) 56 cm ( )

66. Which of the following is not a measure of central tendency ? ( )

(A) Mean (B) Median (C) Range (D) Mode

67.The lengths of the diagonals of a rhombus are 24 cm and 32 cm. The perimeter of the rhombus is ( )

(A) 9 cm (B) 128 cm (C) 80 cm (D) 56 cm

68.Which of the following cannot be the sides of a right triangle ? ( )

(A) 9 cm, 15 cm, 12 cm (B) 2 cm, 1 cm, $\sqrt{5}$ cm

(C) 400 mm, 300 mm, 500 mm (D) 9 cm, 5 cm, 7 cm

69.$\Delta ABC \sim \Delta PQR$, M is the mid-point of BC and N is the mid point of QR. If the area of ΔABC = 100 sq. cm, the area of ΔPQR = 144 sq. cm and AM = 4 cm, then PN is ( )

(A) 4.8 cm (B) 12 cm (C) 4 cm (D) 5.6 cm

70.ΔABC is such that AB = 3 cm, BC = 2 cm and CA = 2.5 cm. If $\Delta DEF \sim \Delta ABC$ and EF = 4 cm, then perimeter of ΔDEF is ( )

(A) 15 cm (B) 22.5 cm (C) 7.5 cm (D) 30 cm

71.A vertical stick 30 m long casts a shadow 15 m long on the ground. At the same time, a tower casts a shadow 75 m long on the ground. The height of the tower is ( )

(A) 150 m (B) 100 m (C) 25 m (D) 200 m

72.If the ratio of the corresponding sides of two similar triangles is 2 : 3, then the ratio of their corresponding altitude is ( )

(A) 3 : 2 (B) 16 : 81 (C) 4 : 9 (D) 2 : 3

73.The perimeter of a sector of a circle of radius 8 cm is 25 what is area of sector?

(A) $50cm^2$ (B) $42cm^2$ (C) $52cm^2$ (D) none of these

74.. Tangent of circle intersect the circle ( )

(A) Only one point (B) Two points (C) Three points (D) None of these

75. How many tangents can a circle have? ( )

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

76.. If PA and PB are tangents from a point P lying outside the circle such that PA = 10 cm and $\angle APB = 60°$. Find length of chord AB ( )

(A) 10cm (B) 20cm (C) 30cm (D) 40cm

77. A tangent PQ at a point P to a circle of radius 5 cm meets a line through the centre at a point Q so that OQ = 13cm the length of PQ. ( )

(A) 11cm (B) 12cm (C) 10cm (D) None of these

78. If tangents PA and PB from a point P to a circle with centre O are inclined to each other at angle of 80° then $\angle POA$ is equal to ( )

(A) 50° (B) 60° (C) 70° (D) 80°

79. A quadrilateral ABCD is drawn to circumscribe a circle IF AB = 4 cm, CD = 7 cm, BC 3 cm, Then length of AD? (A) 7 cm (B) 2cm (C) 8 cm (D) none of these ( )

80. A circle touches all the four sides of a quadrilateral ABCD whose sides AB = 6 cm, BC = 7 cm, CD = 4 cm Then AD = --- (A) 2 cm (B) 3 cm (C) 5 cm (D) 6cm ()

K.SREENIVASA RAJU 9441637668

81.The length of tangent drawn to a circle with radius 3 cm from a point 5 cm from The centre of the circle is(A) 6 cm (B) 8 cm (C) 4 cm (D) 7 cm ( )

82. A line intersecting a circle in two points is called ( )

(A) Tangent (B) secant (C) diameter (D) none of these

83.A garden roller has a circumference of 4 m. The no. of revolutions it makes in moving 40 metres are (A) 12 (B) 16 (C) 8 (D) 10 ( )

84.If the radius of base of a cylinder is doubled and the height remains unchanged, its curved surface area becomes ( )

(A) double (B) three times (C) half (D) no change

85.A solid sphere of radius *r* is melted and recast into the shape of a solid cone of height *r*, thenthe radius of the base of the cone is ( )

(A) *r* (B) 2*r* (C) r^2 (D)$\frac{r}{2}$

86.The volume of a largest sphere that can be cut from cylindrical log of wood of base radius 1 m and height 4 m is ( )

(A) $\frac{8}{3}\pi m^3$ (B) $\frac{10}{3}\pi m^3$ (C) $\frac{16}{3}\pi m^3$ (D)$\frac{4}{3}\pi m^3$

87.Total surface area of a cube is 216 cm2, it's volume is ( )

(A) 216 cm^3 (B) 144 cm^3 (C) 196 cm^3 (D) 212 cm^3

88.The value of the expression cosec (75° + θ) – sec (15° – θ) – tan (55° + θ) + cot (35° – θ) is ( )

(A) – 1 (B) 0 (C) 1 (D) 32

89.sin (45° + θ) – cos (45° – θ) is equal to (A) 2 Cosec θ (B) 0 (C) Sin θ (D) Cosec θ ( )

90. 9 $\sec^2\theta$ – 9 $\tan^2\theta$ is equal to (A) 1 (B) 9 (C) 8 (D) 0 ( )

91. If sin *A* = 8/17 and *A* is acute, then cot *A* is equal to

(A) 15/8 (B) 15/17 (C) 8/15 (D) 17/8 ( )

92. ($\text{cosec}^2 72° - \tan^2 18°$) is equal to (A) 0 (B) 1 (C) 3/2 (D) None Of These ( )

93. If *x* = sec θ + tan θ, then tan θ is equal to (A) $\frac{x^2+1}{x}$ (B) $\frac{x^2-1}{x}$(C) $\frac{x^2+14}{2x}$(D) $\frac{x^2-1}{2x}$ ( )

94. $\tan^2\theta \sin^2\theta$ is equal to (A) $\text{Tan}^2\theta - \text{Sin}^2\theta$(B) $\text{Tan}^2\theta + \text{Sin}^2\theta$(C) $\text{Tan}^2\theta\ \text{Sin}^2\theta$ (D) None Of These ( )

95. If cos θ – sin θ = 1, then the value of cos θ + sin θ is equal to (A) ± 4 (B) ± 3 (C) ± 2 (D) 0 ( )

96. $\frac{1+tan^2\theta}{1+cot^2\theta}$ (A) $\text{Sec}^2\theta$ (B) – 1 (C) $\text{Cot}^2\theta$ (D) $\text{Tan}^2\theta$ ( )

97. ($\sec^2 10° - \cot^2 80°$) is equal to (A) 1 (B) 0 (C) 2 (D) 12

98.A tree 6 m tall casts a 4 m long shadow. At the same time a pole casts a shadow 10 m long. The height of the pole is ( )

(A) 40 m (B) 20 m (C) 15 m (D) 10 m

99.The angle formed by the line of sight with the horizontal, when the point being viewed is above the horizontal level is called ( )

(A) Vertical Angle (B) Angle Of Depression (C) Angle Of Elevation (D) Obtuse Angle

100.If sun's elevation is 60°, then a pole of height 6 m will cast a shadow of length

(A) 6 √3m (B)√3 m (C) 2 √3m (D) 3 √2 m

TEST 13

1		26		51	
2		27		52	
3		28		53	
4		29		54	
5		30		55	
6		31		56	
7		32		57	
8		33		58	
9		34		59	
10		35		60	
11		36		61	
12		37		62	
13		38		63	
14		39		64	
15		40		65	
16		41		66	
17		42		67	
18		43		68	
19		44		69	
20		45		70	
21		46		71	
22		47		72	
23		48		73	
24		49		74	
25		50		75	

K.SREENIVASA RAJU **9441637668**

76			
77			
78			
79			
80			
81			
82			
83			
84			
85			
86			
87			
88			
89			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
100			

					
Ramanujan	Shakuntala Devi	Aryabhatta	Brahma Gupta	BHASKARACHARYA	Kaprekar
					
Sanjeevaraya Sharma	Pavuluri Mallana	Pingala	Mahalanobis	C.S. Seshadri	Harish Chandra

NAME	SCHOOL

1. $(a+b)^2 = a^2 + 2ab + b^2$
2. $(a+b)^2 = (a-b)^2 + 4ab$
3. $(a-b)^2 = a^2 - 2ab + b^2$
4. $(a-b)^2 = (a+b)^2 - 4ab$
5. $(a+b)(a-b) = a^2 - b^2$
6. $(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$
7. $(a+b)^3 = a^3 + b^3 + 3ab(a+b)$ $(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$
8. $(a-b)^3 = a^3 - b^3 - 3ab(a-b)$ $a^3 + b^3 = (a+b)(a^2 - ab + b^2)$
9. $a^3 + b^3 = (a+b)^3 - 3ab(a+b)$ $a^3 - b^3 = (a-b)(a^2 + ab + b^2)$
10. $a^3 - b^3 = (a-b)^3 + 3ab(a-b)$
11. $(a+b+c)^2 = a^2 + b^2 + c^2 + 2ab + 2bc + ca$
12. $(a+b+c)(a^2+b^2+c^2-ab-bc-ca) = a^3 + b^3 + c^3 - 3abc.$
13. $(x+a)(x+b) = x^2 + (a+b)x + ab.$
14. $(ax+b)(cx+d) = acx^2 + (ad+bc)x + bd.$
15. $(x+a)(x+b)(x+c) = x^3 + (a+b+c)x^2 + (ab+bc+ca)x + abc.$
16. In a^n, "a" is called base and "n" is called power (or) index and a^n is called exponential form.
17. $a^m \times a^n = a^{m+n}$(Multiplication property).
18. $(a^m)^n = a^{mn}$ (Power of power property).
19. $\frac{a^m}{a^n} = a^{m-n}$, $If\ m > n.$
20. $\frac{a^m}{a^n} = 1, if\ m = n.$
21. $\frac{a^m}{a^n} = \frac{1}{a^{n-m}}$, $if\ m < n.$
22. $(ab)^n = a^n b^n.$
23. $\left(\frac{a}{b}\right)^n = \frac{a^n}{b^n}.$
24. $a^{-n} = \frac{1}{a^n}.$
25. $\frac{1}{a^{-n}} = a^n$
26. $a^0 = 1$. When $a \neq 0$.
27. $\left(\frac{a}{b}\right)^{-n} = \frac{b^n}{a^n}.$

K.SREENIVASA RAJU 9441637668