BLOCK EDUCATION OFFICER,BEO OFFICE, BHADRAVATHI.

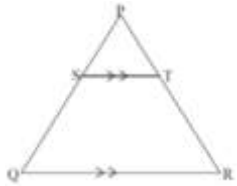
PRACTICE EXAMINATION PAPER

TIME: 60min **MATHEMATICS** **Marks: 40**

I. Four choices are given for each of incomplete / statement / questions. Choose the correct answer and write the complete answer along with it letter of alphabet. **1 x 40 = 40**

1.The n^{th} term of an AP a_n=24 - 3n, then the second term is

A) 18 B)15 C)0 D)2

2. In the given figure ST || QR then $\frac{PS}{SQ}$ is equal to 

A) $\frac{PT}{TR}$ B) $\frac{PS}{TR}$ C) $\frac{PT}{SQ}$ D) $\frac{PT}{SR}$

3. In $x + y = 10$ & $x - y = 2$ values of x & y are

A) x=6, y=4 B) x=4, y=6 C) x=8, y=2 D) x=7, y=3

4. At the 0rigin (x,y) is

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

5. The general form of Quadratic Equation is

(A) $ax^2 - bx + c = 0$ (B) $ax^2 + bx + c = 0$

(C) $ax^2 - bx - c = 0$ (D) $ax^2 + bx - c = 0$

6. sin (90-θ) is equal to

(A) cos θ. (B) tan θ. (C) sec θ. (D) cot θ.

7. 5, 3, 14, 16, 19 & 20 Median of the data is

A)14. B) 15. C) 16. D)17.

8. L S A of frustrum of a cone is

(A) $\pi(r_1-r_2)l$ (B) $\pi(r_1+r_2)h$ (C) $\pi(r_1+r_2)l$ (D) $\pi(r_1-r_2)h$

9. The nth term of an AP is

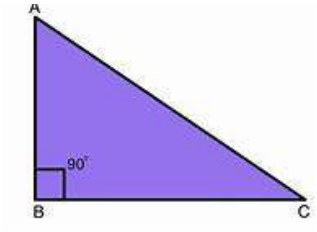
(A) a - (n-1)d (B) a+(n-1)d (C)a+(n+1)d (D)a-(n-1)d

10. Pair of linear equation with two variable are having unique solution, then their respective lines are

(A) Overlaping (B)perpendicular (C)parallel (D) intersecting

11. The distance between a point (x,y) and origin is

(A) $\sqrt{x^2 - y^2}$ (B) $\sqrt{x^2 + y^2}$ (C) $\sqrt{x^2 \times y^2}$ (D) $\sqrt{x^2 \div y^2}$

12. 

Pythagoras theorem for the given triangle is

(A)$AB^2=BC^2+AC^2$ (B)$BC^2=AC^2+AB^2$
(C) $AC^2=AB^2+BC^2$ (D)$AC^2=AB^2 - BC^2$

13. Maximum number of tangents drawn from an external point to a circle are

(A)1 (B)2 (C)3 (D)so many

14.The co-ordinates of verticies of a triangle are colinear , then area of the triangle is

(A) = 0 (B)>0 (C)<0 (D) None of these

15. $x^2 - 3x - 10 = 0$ roots of this quadratic equation are

(A) -5 & 2 (B) 3 & 2 (C) 10 & 1 (D) 5 & -2

16. Name of the trigonometric function when the ratio is $\frac{\boldsymbol{opposit}}{\boldsymbol{hypotenuse}}$

(A) sin (B) cos (C) tan (D)cot

17 A pole of length 10m perpendicular to the earth, an observer observing the tip of the pole angle of elivation is 45^0, then the distance between pole and the observer is

(A)100m (B)20m (C)10m (D)$\sqrt{}$10m

18. 5,6,8,10,8,13,16,8,17. Mode of the un grouped data

(A)8, (B)10, (C)13, (D)16,

19. Area of the circular base cylinder is 22 cm^2 hdeight is 10cm, then volume of he cylinder is

(A)2.2cm^3 (B)22cm^3 (C)220cm^3 (D)2200cm^3

20. Mid point co-ordinates of a line joining two points(6,2) and(4,4)is

(A) (3,5) (B) (5,3) (C) (10,6) (D) (-5,-3)

21. The value of $\tan 45^0 + \cot 45^0$ is.

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

22. The nature of the roots when ***discriminant*** **$\Delta=0$**

(A)equal& Real (B)Real & distinct

(C)No roots (D)equal & distinct

23.Mean is present in which C - I in the following frequency distribution table

C - I	1-4	4-7	7-10	10-13	13-16	16-19
f	6	30	40	16	4	4

(A)4-7 (B)7-10 (C)10-13 (D)13-16

24. Which of the following is not changed when a solid cylinder is converted in to a solid cone

(A)area (B)volume (C)height (D)radius

25. When $2 \cos A = 1$, then $\sec A =$

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

26. -10,-7,-4. . . . . the common difference of this AP is

(A)-3 (B)17 (C)3 (D)-17

27. The roots of this Quadratic equation $ax^2+bx+c=0$

(A) $x = \frac{-b\pm\sqrt{b^2+4ac}}{2a}$ (B) $x = \frac{b\pm\sqrt{b^2-4ac}}{2a}$

(C) $x = \frac{b\pm\sqrt{b^2+4ac}}{2a}$ (D) $x = \frac{-b\pm\sqrt{b^2-4ac}}{2a}$

28. The angle between tangents drawn to a circle from an external point is 70^0 then the angle between the radii is

(A)70^0 (B) 110^0 (C)90^0 (D)180^0

29. Trigonometric identity $1 + \tan^2A =$

(A)$\sin^2A$ (B)$\cos^2A$ (C)$\sec^2A$ (D)cosec^2A

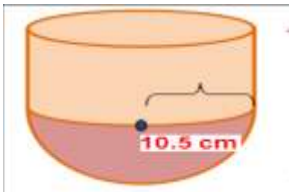
30.Name of the graph where higher limit of C -I is represented of x-axis and cumilative frequency on y-axis

(A) histogram (B) Less than ogive curve

(C) More than ogive curve (D)Pi-graph

31. The distance between pints A(4,0) & B(0,3) is

A)7 (B)25 (C)5 (D)$\sqrt{5}$



32. Name the combination of solids in this figure

(A)sphere+cylinder (B)hemisphere+cylinder

(C)cylinder+cone (D)None of these

33. The angle formed between radius and tangent at point of contact of a cirlce

(A)60^0 (B)90^0 (C)120^0 (D)180^0

34. How many two digit numbers which are divisible by 10.

(A)10 (B)9 (C)11 (D)8

35. All _____ triangls are similer

(A) Isosceles (B)Scalen (C)Equilatral (D)All are correct

36. Name of the line intersecting at two points of the circle

(A)Tangent (B)Secant (C)Diameter (D)chord

37. The equation form of " sum of two pens and three note books is Rs. 75

(A)2x+3y=75 (B)2x-3y=75 (C)75x+2y=3 (D)3x+75y=2

38. Surface area of sphere whose radius is 7 cm.

(A)88cm^2 (B)616cm^2 (C)28cm^2 (D)154cm^2

39 The ratio of area of similer triangles 4 : 9, then ratio of their corresponding sides is

(A) 2 : 3 (B) 16 : 81 (C) $\frac{1}{4} : \frac{1}{9}$ (D) $\frac{1}{16} : \frac{1}{81}$

40. The ratio of volume of a cone and a cylinder of same radius and height

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

ALL THE BEST