SSLC PRE-MODAL EXAMINATION 2022
Mathematics

Maximum Mark -80

A (Attempt Any 4) **Part I (1 Mark Each)** **(4×1=4)**

1) 7, ..., 17 are in arithmetic sequence. find the missing number

a.10 b.12 c.14 d.15

2) Ina cyclic quadrilateral ABCD, <A =110° What is <C = ----------

a. 110° b. 100° c. 80° d. 70°

3) A box contains number 1,2,3,4,5 What is the probability of getting even number

a . $\frac{2}{5}$ b. $\frac{3}{5}$ c. 1 d. 0

4) Total surface area of a sphere with radius 10 is

a. 40π b. $400\ \pi$ c. $300\ \pi$ d. $200\ \pi$

5) Slope of a line passing through the points (2,3) and (5,6)

a . 1 b. 2 c. $\frac{2}{3}$ d. $\frac{1}{3}$

6) Find the median 8,5,7,9,10

a . 7 b. 9 c. 8 d. 7.5

B) (Attempt All questions) **(4×1=4)**

7) What is the L.S.A of a square pyramid with base edge =10cm. Slant height 13

a. $130cm^2$ b. $43cm^2$ c. $260cm^2$ d. $36cm^2$

8) y= 2x is the equation of a line, which is the point on the line

a . (3,6) b(2,3) c. (4,10) d. (1,½)

9) Sum of n forms of an A.S is $2n^2 + 3n$. Write first term

a . 5 b. 6 c. 1 d. 2

10) In ΔABC, Area of $\Delta ABC = 24$. Perimeter of $\Delta ABC = 24$, What is the radius of incircle.

a . 1 b. 2 c. 6 d. 3

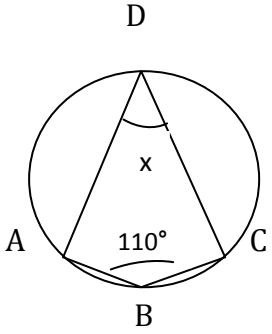
PART II (2 Marks each)

A. (Attempt Any -3 **(3×2=6)**

11) a. Write the sequence of numbers ends 1 or 6 in ones place

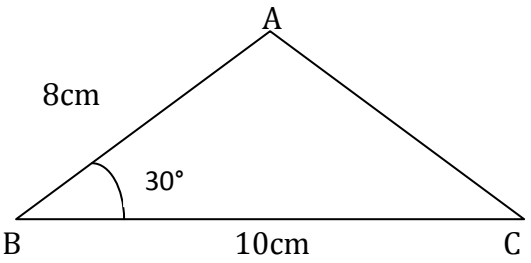
b. Is this an Arithmetic Sequence.

12) In the figure find x



13)Two opp. Vertices of a rectangle (2, 5) and (8,7) and sides are parallel to axis.Write other two opposite vertices

14) Find the Area of ΔABC shown below.



15) What is the remainder on dividing x^2+2x+3 by $(x-1)$

B) (Attempt Any 2) **(2×2=4)**

16) Find the co- ordinate of the point P. Which divides the line joining the points A(3,2) and B (8,7) in the ratio 2:3.

17) What is the volume of a square pyramid of base edge 10cm and slant height 15cm.

18) Find the equation of the line joining (-1,3) and (2,5).

PART III (4Marks Each)

A (Attempt Any 3) **(3×4=12)**

19) Draw x and y axis, Mark the point (3,4).

a. Draw a circle with centre as origin and passing through (3,4)

b. Find its radius.

c. Write two more points on this circle.

20) A cone is made by rolling a semicircle metal sheet of radius 10c.m.

a. What is the slant height and radius of the cone.

b. Find the Curved Surface Area of the cone.

21) Find the co-ordinate of the midpoints of ΔABC A(-3,2), B(1,5), C(3,-4).

22) Consider the polynomial p(x) = $3x^2$ +4x+1. Write p(x) as the product of two first degree polynomials.

23) Draw a square of side $\sqrt{12}$cm

B(Attempt Any 1) **(1×4=4)**

24) In class 10 A there are 30 boys and 20 girls and 10 B there are 25 boys and 15 girls. One student is selected from each class.

a. What is the probability of both being boys.

b. What is the probability of both girls.

25) The co-ordinate of the vertices of a triangle are (-1,5), (3,7), (1,1). Find the centroid of the triangle.

PART IV (6mark Each)

A. (Attempt Any 3) **(3×6=18)**

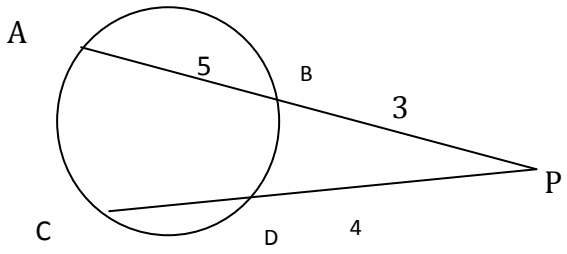
26. Draw a rectangle of sides 5 cm, 3cm construct a square whose area is same as the area of the rectangle.

27. A sector of central angle 216° is cut out from a circle of radius 25cm and is rolled up into a cone. What is the base radius and height of the cone? What is its volume?

28. Chords AB and CD intersect at p outside the circle . If AB = 5cm, PB = 3cm, PD =4cm.

a. Find the length of PC

b. Find CD



29. The perimeter of a rectangle is 64 cm. Area 240 cm^2

a. What is the sum of length and breadth

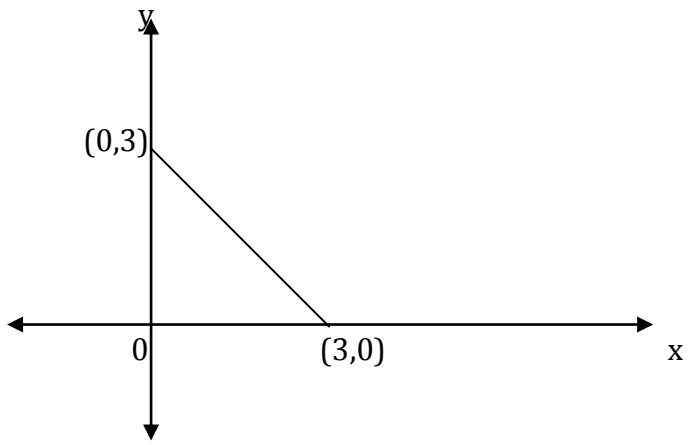
b. Form a second degree equation by taking one side as x

B(Attempt Any 2) **(2×6=12)**

30. The co ordinates of the vertices of a triangle are (3,5) , (9,13) and (10,6). Prove that this triangle is isosceles. Calculate its area.

31. Show that the area of right angled triangle with hypotenuse h and radius r is r (h+r)

32. In the figure show that sum of x and y co-ordinates of any points on the line which cuts the x, y axis is 3.



PART V (8 Mark Each)

A. (Attempt Any 2) (2×8=16)

33. A boy sees the top of building of an elevation of 60°. Stepping 40 meter back , he sees it an elevation of 30°.

a. Draw a rough figure

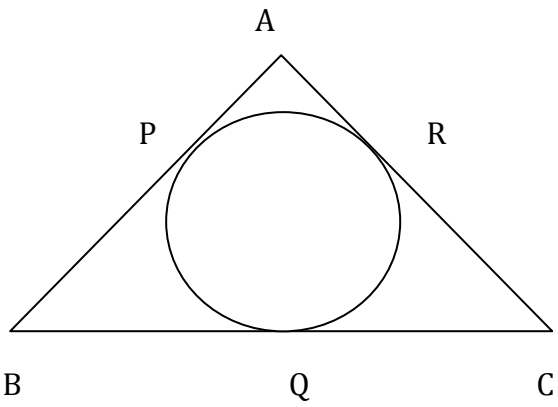
b. Find the height of the building

34. i) In the picture AB = 8cm, BC = 10cm, AC= 6cm. Find

a. Length of AP

b. Length of CR

c. Length of BQ



ii) Draw an equilateral triangle with side 6 cm. Draw its incircle.

35.

i) In a class the scores of 7 students in an examination are given below.

a. 10,15,25,16,12,9,11

b. Calculate mean and median score

ii) The table below shows daily wages of workers working in a factory.

Daily Wages	No.of Workers
400	2
500	4
600	5
700	7
800	5
900	4
1000	3

Find the median wage.