Dr. A. Vennila, Principal, Kumbakonam, Thanjavur District

HSS
8 - Std

HALF YEARLY EXAMINATION 2024
MATHS

Time : 3.00 Hrs

Marks : 100

PART- A

I **Choose the correct answers:-**   10 X 1 = 10

1) The number which is subtracted from -6/11 to get 8/9 is ....
   a) $\frac{34}{99}$ b) $\frac{-142}{99}$ c) $\frac{142}{99}$ d) $\frac{-34}{99}$

2) The square of 43 ends with the digit ....   a) 9   b) 6   c) 4   d) 3

3) The longest chord of a circle is ....
   a) Radius   b) Diameter   c) Perimeter   d) Arc

4) The cross section of a solid cylinder is ....
   a) square   b) circle   c) rectangle   d) triangle

5) If $x^2 - y^2 = 16$ and $(x + y) = 8$ then $(x-y)$ is ....   a) 8   b) 3   c) 2   d) 1

6) The largest number of the three consecutive numbers is $x + 1$, then the smallest number is ....   a) x   b) x + 1   c) x + 2   d) x - 1

7) What is the market price of a hat which is bought for Rs. 210 at 16% discount?
   a) Rs. 243   b) Rs. 176   c) Rs.230   d) Rs. 250

8) The number of conversion periods in s year, if the interest on a principal is compounded every two month is ....   a) 2   b) 4   c) 6   d) 12

9) The hypotenuse of a right angled triangle of sides 12 cm and 16 cm is ....
   a) 28 cm.   b) 20 cm.   c) 24 cm   d) 21 cm

10) How many 2 digit numbers contain the number 7 ?   a) 10   b) 18   c) 19   d) 20

II **Fill in the blanks.**   5 X 1 = 5

11) The rational number .... does not have a reciprocal.

12) A line segment which joins any two points on a circle is a ....

13) (0,-5) point lies on .... axis.

14) A can finish a job in 3 days whereas B finishes it in 6 days. The time taken to complete the job working together is .... days.

15) In any triangle .... sides are opposite to equal angles.

III **True or False :-**   5 X 1 = 5

16) The average of two rational numbers lies between them.

17) A cube has 4 faces.

18) The coordinates of the origin are (1,1).

19) Linear equation in one variable has only one variable with power 2.

20) Two numbers are said to be co-prime numbers if their HCF is 1

IV **Match.**   5 X 1 = 5

21) $(a^m)^n$ -   marked price - selling price
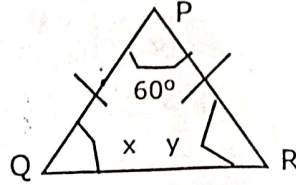
22) Area of the sector of a circle   -   2 : 1

23) $a^2 - b^2$ - a^{mn}

24) Discount   - $\frac{\theta}{360} \times \pi r^2$

25) Centroid   - $(a + b) (a - b)$

PART – B

V **Answer the following :(any 12)**   12 × 2 = 24

26) Compare the pairs of rational numbers. $\frac{3}{4}, \frac{5}{6}$.

27) Find the square root of 324 by prime factorisation.

28) Write the following number in scientific notation. 467800000000.

29) Simplify : $\sqrt{12} \times \sqrt{3}$.

30) The radius of a sector is 10 m and it's length of the arc is 48 m. Find the area of the sector.

31) A circular shaped gymnasium ring of radius 35 cm is divided into 5 equal arcs shaded with different colours. Find the length of each of the arcs.

32) Find the product of $2x^2y^2$, $3y^2z$ and $-z^2x^3$.

33) Simplify $(3x + 5y)(3x - 5y)$ by using identity.

34) Factorise $x^2 + 14x + 49$.

35) Solve. $2x + 5 = 9$.

36) Find the quadrants without plotting the points on a graph. $(-3, -5)$, $(4, -3)$, $(5, 2)$, $(0, 10)$

37) If x% of 600 is 450, then find the value of x

38) A and B together can do a piece of work in 16 days and A alone can do it in 48 days. How long will B take to complete the work?

39) A 20 feet ladder leans against a wall at height of 16 feet from the ground. How far is the base of the ladder from the wall?

40) Find the value of x, y in the figure.

41) Using repeated subtraction method, find the HCF of the following. 36 and 80.

42) The sum of three consecutive odd numbers is 75. Which is the largest among them?
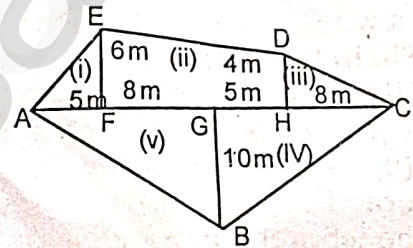
PART – C

VI Answer the following :(any 7).   7 X 5 = 35

43) Write the following rational numbers in ascending and descending order.

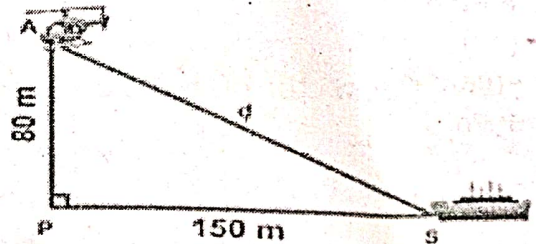$$\frac{-5}{12}, \frac{-11}{8}, \frac{-15}{24}, \frac{-7}{-9}, \frac{12}{36}$$

44) Simplify. $\dfrac{9^2 \times 7^3 \times 2^5}{84^3}$.

45) Find the area of an irregular polygon field whose measures are as given in the figure.

46) Find the volume of the cuboid whose dimensions are $(x + 2)$, $(x - 1)$, and $(x - 3)$

47) The sum of two numbers is 36 and one number exceeds another by 8. Find the numbers.

48) A value of motor cycle 2 years ago was Rs. 70000. It depreciates at the rate of 4% p.a. Find its present value.

49) 210 men working 12 hours a day can finish a job in 18 days. How many men are required to finish the job in 20 days working 14 hours a day?

50) Find the distance between the helicopter and the ship.

51) Using repeated division method, find the HCF. 392 and 256

52) Factorise: $x^3 + 15x^2 + 75x + 125$.

PART - D

VII Answer the following:-   2 x 8 = 16

53) Construct a trapezium AIMS in which AI || SM, AI = 6 cm, IM = 5 cm AM = 9 cm, MS = 6.5cm. Also find its area. *(OR)* Construct a rhombus ROSE with RO = 5 cm and RS = 8 cm. Also find its area.

54) Plot the following points in a graph sheet. A (5, 2), B (0, 0), C (-2, 4), D (-1, -6), E (0, -5), F (2, 0), G (3, -6), H (-7, 0), I (-2, 5), J (4, 1) *(OR)* Draw the graph of X = 5.

HSS 8 கணிதம் (E.M) PAGE - 2