HSS
8 - Std
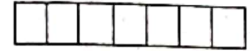
HALF YEARLY EXAMINATION 2024
MATHS

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) $\dfrac{34}{99}$ b) $\dfrac{-142}{99}$ c) $\dfrac{142}{99}$ d) $\dfrac{-34}{99}$

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   - $\dfrac{\theta}{360} \times \pi r^2$

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

PART – B

V   **Answer the following :(any 12)**   12 × 2 = 24
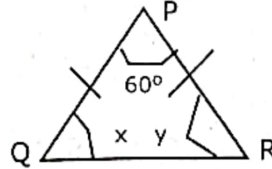
26) Compare the pairs of rational numbers. $\dfrac{3}{4}, \dfrac{5}{6}$.

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.

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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.

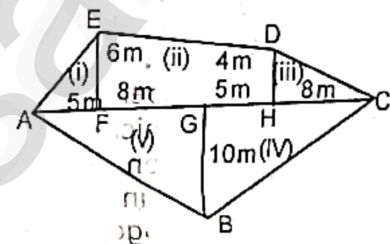42) The sum of three consecutive odd numbers is 75. Which is the largest among them?

PART – C

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

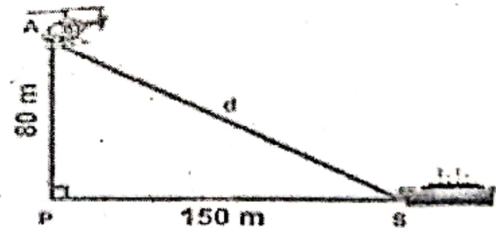43) Write the following rational numbers in ascending and descending order.

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

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

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.

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