

HSS

8 - Std

HALF YEARLY EXAMINATION 2024

MATHS

8081

Time : 3.00 Hrs

Marks : 100

PART - A

10X 1 = 10

- I Choose the correct answers:-**
- 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) $\frac{-34}{99}$
 - The square of 43 ends with the digit a) 9 b) 6 c) 4 d) 3
 - The longest chord of a circle is
 a) Radius b) Diameter c) Perimeter d) Arc
 - The cross section of a solid cylinder is
 a) square b) circle c) rectangle d) triangle
 - If $x^2 - y^2 = 16$ and $(x + y) = 8$ then $(x-y)$ is a) 8 b) 3 c) 2 d) 1
 - 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) $x - 1$
 - 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
 - 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
 - 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
 - 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

- The rational number does not have a reciprocal.
- A line segment which joins any two points on a circle is a
- $(0, -5)$ point lies on axis.
- 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.
- In any triangle ...)..... sides are opposite to equal angles.

III True or False :-

5 X 1 = 5

- The average of two rational numbers lies between them.
- A cube has 4 faces.
- The coordinates of the origin are $(1,1)$.
- Linear equation in one variable has only one variable with power 2.
- Two numbers are said to be co-prime numbers if their HCF is 1

IV Match.

5 X 1 = 5

- $(a^m)^n$ - marked price - selling price
- Area of the sector of a circle - 2 : 1
- $a^2 - b^2$ - a^{mn}
- Discount - $\frac{\theta}{360} \times \pi r^2$
- Centroid - $(a + b)(a - b)$

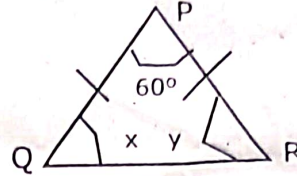
PART - B

V Answer the following :(any 12)

12 X 2 = 24

- Compare the pairs of rational numbers, $\frac{3}{4}, \frac{5}{6}$.
- Find the square root of 324 by prime factorisation .
- Write the following number in scientific notation . 467800000000.
- Simplify : $\sqrt{12} \times \sqrt{3}$.
- 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

7 X 5 = 35

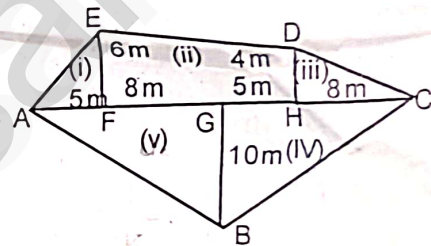
VI Answer the following :(any 7).

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

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

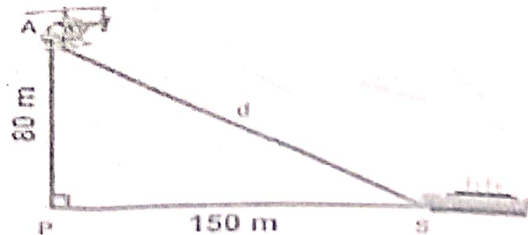
44) Simplify. $\frac{9^2 \times 7^3 \times 2^5}{84^3}$

- 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 $AI \parallel SM$, $AI = 6$ cm, $IM = 5$ cm, $AM = 9$ cm, $MS = 6.5$ cm. 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 $X = 5$.