HALF YEARLY EXAMINATION - 2022

STD - VIII

TIME : 2.00 Hrs

MATHS

MARKS : 100

PART - A

I. Choose the correct answer.   5 x 1 = 5

1. Which of these rational numbers which have additive inverse?
   - a) 7   b) - 5 / 7   c) 0   d) all of these
2. The radius of a circle of diameter 24 cm is   a) 24 cm   b) 12 cm   c) 6 cm   d) 8 cm
3. if $x^2 - y^2 = 16$ and $(x+y) = 8$ then $(x-y)$ is .... a) 8   b) 3   c) 2   d) 1
4. The single discount in % which is equivalent to two successive discounts of 20% and 25% is
   - a) 40%   b) 45%   c) 5%   d) 22.5%
5. The hypotenuse of a right angled triangle of sides 12 cm and 16cm is ....
   - a) 28 cm   b) 20 cm   c) 24 cm   d) 21 cm

II. Fill in the blanks.   5 x 1 = 5

6. The maximum number of digits in the cube of a two digit number is ....
7. The cross section of a solid cylinder is ....
8. If the area of a square is $36x^4y^2$ then its side is ....
9. The symbol $\equiv$ is used to represent .... triangles.
10. Every 3rd number of the Fibonacci sequence is a multiple of ....

III. Say True or false   4 x 1 = 4

11. The standard form of 2×10^{-4} is 0.0002
12. The co-ordinates of the origin are (1,1)
13. Depreciation value is calculated by the $P = (1 - \dfrac{r}{100})^n$ formula
14. If you toss three coins once, you will get 8 outcomes.

PART - B

VI. Answer any 10 questions   10 x 2 = 10

15. One roll of ribbon is 18 3/4 m long. Sankari has four full rolls and one third of another roll. How many meters of ribbon does sankari have in total?
16. Find the square root of 324 by Prime factorisation.
17. Find x so that $(-7)^{x+2} \times (-7)^5 = (-7)^{10}$
18. A spinner of radius 7.5 cm is divided into 6 equal sectors. Find the area of each of the sectors.
19. How many faces, edges and vertices of a cube?
20. Simplify : $\dfrac{3m^2}{m} + \dfrac{2m^4}{m^3}$
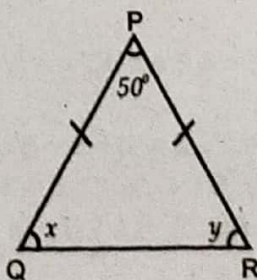21. Factorise : $7C^2 + 2C - 5$
22. The sum of two numbers is 36 and one number exceeds another by 8. Find the numbers.
23. If P = Rs.5000, r = 4% p.a, n = 2 years. Find the difference in G.I. and S.I.
24. If x% of 600 is 450, then find the value of x.
25. State the Pythagoras theorem.
26. Find the value of x and y in the figure.

27. Find the HCF of 42 and 70 using repeated subtraction method.
28. Shanthi has 5 chudithar sets and 4 frocks. In how many possible ways, can she wear either a chudithar or a frock?

PART - C

V. Note : Answer any 10 questions.   10 x 5 = 50

29. Arrange the rational numbers in ascending order. $\dfrac{-17}{10}, \dfrac{-7}{5}, 0, \dfrac{-2}{4}, \dfrac{-19}{20}$

30. Evaluate : $\sqrt[3]{\dfrac{1728}{729}}$

31. Simplify : $\dfrac{9^2 \times 7^3 \times 2^5}{84^3}$

32. Kamalesh has a dining table, circular in shape of radius 70cm whereas Tharun has a circular quadrant dining table of radius 140cm. Whose dinning table has a greater area? ($\pi = 22/7$)

33. Find the are of an irregular polygan field whose measures are as given in the figure.
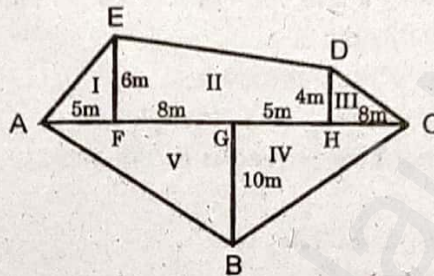
34. Divide : $(5y^3 - 25y^2 + 8y)$ by $5y$
35. Find the value of $(104)^3$
36. Mother is five times as old as her daughter. After 2 years, the mother will be four times as old as her daughter. What are their present age?
37. The income of a person is increased by 10% and then decreased by 10%. Find the change in his income.
38. Match following :
    (i) Area of a circle   - (a) $1/4\ \pi r^2$
    (ii) Circumfrence of a circle   - (b) $(\pi+2)r$
    (iii) Area of the sector of a circle - (c) πr^2
    (iv) Circumfrence of a semicircle - (d) $2\pi r$
    (v) Area of a quadrant of a circle - (e) $\dfrac{\theta°}{360°} \times \pi r^2$

39. If 48 men working 7 hours a day can do a work in 24 days, then in how many days will 28 men working 8 hours a day can complete the same work?
40. 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?
41. In class VIII, a math club has four members M, A, T and H. Find the number of different ways, the club can elect (i) a leader (ii) a leader and an assistant leader
42. using repeated division method, find the HCF of 392 and 256.

PART - D

VI. Note : Answer all questions.   2 x 8 = 16

43. (A) Construct a quadrilateral NICE with NI = 4.5 cm, IC = 4.3 cm, NE = 3.5 cm, NC = 5.5cm and IE = 5 cm. Also find its area. (OR)
    (B) Construct a rhombus ROSE with RO = 5 cm and RS = 8 cm. Also find its area.
44. (A) Plotting the points on the graph A(4,3), B (-4, 5), C(-3, -6) D(5,-2) E (6,0) F(0,-5) (OR)
    (B) Draw straight lines by joing the points A(2,5), B (-5,-2), M (-5, 4), N (1, -2) also find the point of intersection.