R
COMMON SECOND MID - TERM TEST - 2022

Reg.No. 8 2 1 4 ☐ ☐

Standard - VIII
MATHEMATICS

Marks: 100

Time: 2.30 hrs.

5 × 1 = 5

I.   Choose the correct Answer:

1. If $x^2 - y^2 = 16$ and $(x + y) = 8$ then $(x - y)$ is _____.
   A) 8   B) 3   C) 2   D) 1

2. $(a - b) = 3$ and $ab = 5$ then $a^3 - b^3 =$ _____.
   A) 15   B) 18   C) 62   D) 72

3. One factor of $x^3 + y^3$ is
   A) $(x - y)$ B) $(x + y)$ C) $(x + y)^3$ D) $(x - y)^3$

4. The largest number of the three consecutive numbers is $x + 1$, then the smallest number
   A) x   B) x + 1   C) x + 2   D) x - 1

5. Two numbers are said to be co-prime numbers if their HCF is
   A) 2   B) 3   C) 0   D) 1

5 × 1 = 5

II. Fill in the blanks :

6. The value of x in the equation $x + 5 = 12$ is _____.
7. The linear equation is one variable has __one__ solution.
8. In an equation $a + b = 23$, the value of a is 14, then the value of b is _____.
9. If 5 persons can do 5 jobs in 5 days then 50 persons can do 50 jobs in _____ days.
10. If HCF of two numbers is 1, then the numbers are said to be __1__.

5 × 1 = 5

III. Say True or False:

11. The shifting of a number from one side of an equation to other is called transposition.
12. Linear equation in one variable has only one variable with power 2.
13. $5(3x + 2) = 3(5x - 7)$ is a linear equation in one variable.
14. To construct a parallelogram we need 3 measurment.
15. Workers and Time are in inverse proportion.

5 × 1 = 5

IV. Match the following:

16. $\frac{x}{2} = 10$ -   ½ d_1 d_2 sq.units   4

17. $20 = 6x - 4$ -   Direct proportion   5

18. Area of Parallelogram   -   x = 20   1

19. Distance and Time   -   bh sq. units   3

20. Area of Rhombus   -   x = 4   2

10 × 2 = 20

V.   Answer any 10 questions:

21. Expand : $(3m + 5)^2$

22. Find the value of $(998)^2$ by using $(a - b)^2$ identity.

23. Expand : $(y - 5)^3$

24. Factorise : $x^2 + 8x + 15$

25. Factorise the following by taking out the common factor. $18xy - 12yz$

26. Solve the equation : $x - 7 = 6$

27. Solve : $2x + 5 = 9$

28. One number is seven times another. If their difference is 18, find the numbers.

29. 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?

30. Mention any two properties of Parallelogram.

31. Using repeated division method find the HCF of 455 and 26.

32. Using repeated subtraction method find the HCF of 36 and 80.

V. Answer any 8 questions: $8 \times 5 = 40$

33. Expand : $(x + 3)(x + 5)(x + 2)$

34. Find the volume of the cube whose side is $(x + 1)$ cm

35. Find x : $\dfrac{2x}{3} - 4 = \dfrac{10}{3}$

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

37. Find the value of $(103)^3$

38. 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?

39. 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?

40. Using repeated division method, find the HCF of the following: 184, 230 and 276

41. Using repeated subtraction method find the HCF of the following : 320, 120 and 95.

VI. Answer the following: $2 \times 10 = 20$

42. a) Construct a parallelogram BIRD with BI = 6.5cm, IR = 5cm and ∠BIR = 70°. Also find its area.

(OR)

b) Construct the following parallelogram with the given measurements and find its area CAMP, CA = 6cm, AP = 8cm and CP = 5.5cm.

43. a) Construct a rhombus ROSE with RO = 5cm, and RS = 8cm, Also find its area.

(OR)

b) Construct the following Rhombus with the given measurements and also find its area CAKE, CA = 5cm and ∠A = 65°.