AMRITA VIDYALAYAM
ANNUAL EXAMINATION 2019 - 20

Class : VII   **Marks : 80**
                                                    Time   : 3 hrs

MATHEMATICS

SECTION - A

1. The number which is neither positive nor negative is _____.
   a) 1   b) -5   c) 0   d) none of these

2. The equivalent fraction of $\frac{5}{7}$ is _____.
   a) $\frac{25}{14}$ b) $\frac{10}{21}$ c) $\frac{20}{14}$ d) $\frac{15}{21}$

3. The solution of $5x = -15$ is _____.
   a) 3   b) -3   c) 1/3   d) none of these

4. If two angles of a triangle are 70^0 and 80^0, then the third angle is _____.
   a) 30^0 b) 45^0 c) 60^0 d) 90^0

5. The area of a square is 100 sq.cm. Then its side is _____.
   a) 12 cm   b) 14 cm   c) 10 cm   d) 8 cm

6. If seven times a number is 56, then the number is _____.
   a) 8   b) -8   c) 8   d) 0

7. The value of $1^0 \times 2^0 \times 3^0$ is _____.
   a) 0   b) 1   c) 3   d) 6

8. 50% of 164 is _____.
   a) 82   b) 42   c) 50   d) 25

9. The coefficient of x in the term -4ax is _____.
   a) 4a   b) -4   c) -a   d) -4a

10. The standard form of 39087.8 is _____.
    a) 3.90878×10^6 b) 3.90878×10^5 c) 3.90878×10^4 d) 3.90878×10^3

11. The greatest negative integer is _____.
                                    OR
    $13 \div \{(-2) + 1\} =$ _____.

12. Selling price - Cost price = _____.

13. The total boundary length of a closed figure is called its _____.

14. The terms of the polynomial $x^5 + x^3 - 2$ are _____ .
15. Two circles are congruent, if they have _____ .
16. Write the equations for the statement : the sum of numbers x and 4 is 9.

<div align="center">OR</div>

The sum of two consecutive positive integers is 25. Find the numbers.
17. How many medians can a triangle have?
18. Give any two real life examples for congruent shapes.
19. Find the area of a parallelogram whose base is 5 cm and height is 3 cm.
20. Find the ratio of ₹ 5 to 50 paise.

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SECTION - B

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21. Find the product.
    a) $(-36) \times (-1)$ b) $(-15) \times 0 \ (-18)$

<div align="center">OR</div>

Find the product using suitable property.
$26 \times (-48) + (-48) \times -36$
22. The side of an equilateral triangle is 3.5 cm. Find the perimeter.
23. The sum of three times a number and 11 is 32. Find the number.
24. If $\triangle ABC \cong \triangle FED$ under the correspondence $ABC \leftrightarrow FED$, write all corresponding congruent parts of the triangles.
25. ABC is a triangle, right angled at C. If AB = 10 cm and AC = 6cm, find BC.

<div align="center">OR</div>

Is it possible to have a right triangle with the following sides 2 cm, 5 cm, 2 cm. Give reason.
26. Express 72 as a product of powers of prime factors.

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SECTION - C

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27. Verify the following.
    a) $18 \times (4 + -3) = (18 \times 4) + (18 \times -3)$
    b) $-21 \times (-4 + -2) = (-21 \times -4) + (-21 \times -2)$
28. A car runs 16 km using 1 litre of petrol. How much distance will it cover using 2¾ litres of petrol?

<div align="center">OR</div>

Multiply and reduce to lowest form.
    a) $\dfrac{11}{7} \times \dfrac{7}{9}$ b) $\dfrac{1}{3} \times 1 \dfrac{7}{8}$
29. Solve.
    a) $x - 1 = 5$ b) $3 (n - 5) = 21$

<div align="center">OR</div>

Raju's father's age is 5 years more than three times Raju's age. Find Raju's age, if his father is 44 years old.
30. Define.
    a) Equilateral triangle   b) Isosceles triangle
31. If the angles of a triangle are in the ratio 1 : 2 : 3, find the value of each angle and also classify the triangle.

<div align="center">OR</div>

If ₹ 250 is to be divided amongst Ravi, Raju and Roy so that Ravi gets 2 parts, Raju 3 parts and Roy 5 parts, how much money will each get?

32. Find the circumference and area of the circle of radius 14 cm. ($\pi = 22/7$)
33. Identify the monomials, binomials and trinomials.
    a) 4y - 7z   b) y^2 c) x + y - xy
    d) 100   e) $z^2 + z$ f) ab - a - b
34. Mahesh finished colouring a picture in 7/12 hour. Vaibhav finished colouring the same picture in 3/4 hour. Who worked longer? By what fraction was it longer?

SECTION - D

35. Construct a right angled triangle whose hypotenuse is 6 cm long and one of the legs is 4 cm long.

    OR

    Construct ΔPQR with PQ = 4 cm, QR = 3.5 cm, PR = 4 cm. What type of triangle is this?
36. In the figure given below, $\overline{AB}$ and $\overline{CD}$ bisect each other at O.
    a) State the three pairs of equal parts in the two triangles ΔAOC and ΔBOD.
    b) Which of the following statements are true?
    (i) ΔAOC ≅ ΔBOD   (ii) ΔAOC ≅ ΔDOB

37. Simplify the expressions and find the value if x = 2.
    a) x + 7 + 4 (x - 5)   b) 3 (x + 2) + 5x - 7

    OR

    a) Subtract $-x^2 + 10x - 5$ from 5x - 10.
    b) Add 3x + 11 and 7x - 5.
38. Find the amount to be paid at the end of 3 years where Principal = ₹ 1,200 and Rate of interest = 12% per annum.

    OR

    Selling price of a toy car is ₹ 540. If the profit made by the shopkeeper is 20%, what is the cost price of this toy?
39. Simplify and write in exponential form using the law of exponents.
    a) $(3^7 \div 3^3) \times 3^5$ b) $25^4 \div 5^3$
    c) $(2^3 \times 2^2)^3$ d) $a^4 \times b^4$
40. Arun painted a wall of 55 m by 34 m and the money he got for his work was ₹ 40 per square metre. What is the total amount that he got? He always gave 1/3rd of his income to an orphanage. Calculate how much money he gave to the orphanage? What value do you get from the above question?