



ANANDALAYA
ANNUAL EXAMINATION
Class : VII

Subject: Mathematics
Date : 3/03/2023

M.M: 80
Time: 3 Hours

General Instructions:

- i) All questions are compulsory.
- ii) This question paper contains 39 questions.
- iii) Questions 1 – 16 in Section A are multiple choice type questions carrying 1 mark each.
- iv) Questions 17 – 26 in Section B are short-answer type questions carrying 2 marks each.
- v) Questions 27 – 34 in Section C are short -answer type questions carrying 3 marks each.
- vi) Question 35 – 39 in Section D are long-answer type questions carrying 4 marks each.

SECTION - A

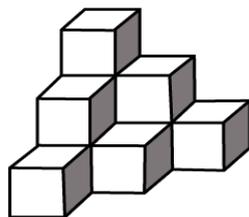
1. The temperature of a city is 4°C . Next day the temperature falls by 5°C . What is the temperature of the city next day? (1)
(a) 1°C (b) 4°C (c) -5°C (d) -1°C
2. The letters of the word 'SPINNING' are placed in box. What is the probability of drawing letter I from the box? (1)
(a) $\frac{1}{4}$ (b) $\frac{3}{8}$ (c) $\frac{5}{8}$ (d) 1
3. Thrice a number when increased by 5 gives 44. The number is (1)
(a) 13 (b) 26 (c) 39 (d) 49
4. How many altitude can a triangle have? (1)
(a) 1 (b) 2 (c) 3 (d) 4
5. Which is the longest side in the triangle ABC right angled at B? (1)
(a) AB (b) BC (c) AC (d) none of these.
6. Find the ratio of 3 km to 300 m. (1)
(a) 10 : 1 (b) 1 : 10 (c) 1 : 5 (d) none of these
7. How much will an item cost if 10% discount is given on the marked price ₹ 100 (1)
(a) 90 (b) 110 (c) 95 (d) 85
8. The value of constant π is: (1)
(a) 31.4 (b) $\frac{22}{7}$ (c) $\frac{7}{22}$ (d) 314
9. If a wire in the shape of the square is rebent into a rectangle, then the of both shapes remain same, but may vary. (1)
(a) Perimeter, Area (b) Area , Perimeter (c) Area, Length (d) Length, Breadth
10. The expression $x + y - xy$ is: (1)
(a) Monomial (b) Binomial (c) Trinomial (d) Quadrinomial
11. How many lines of symmetry are there in a rhombus? (1)
(a) 1 (b) 2 (c) 3 (d) 4
12. The value of $(-1)^{55}$ is: (1)
(a) -1 (b) 1 (c) 0 (d) none of these
13. $a^m \div a^n = a^{\dots}$ Where m and n are natural numbers:- (1)
(a) mn (b) m + n (c) m – n (d) m ÷ n
14. The number of faces of a triangular pyramid is (1)
(a) 6 (b) 8 (c) 4 (d) 5

15. The mirror image of 'W', when the mirror is placed vertically: (1)
 (a) V (b) M (c) S (d) W
16. Two cubes of dimensions $2\text{ cm} \times 2\text{ cm} \times 2\text{ cm}$ are placed side by side, the length of resulting cuboid is (1)
 (a) 2 cm (b) 3 cm (c) 4 cm (d) 6 cm

SECTION - B

17. The highest marks obtained by a student in the class is thrice the lowest marks plus 9. The highest score is 84. What is the lowest score? (2)
18. One-fourth of a number decreased by 7 gives 5. Find the number. (2)
19. The angles of a triangle are in the ratio of 1 : 2 : 3. Determine the corresponding angles. (2)
20. A train is running at a speed of 130 km/hr. Find the distance covered by the train in 42 minutes. (2)
21. Find the value of: i) $(2^\circ + 3^\circ) \times 4^\circ$ ii) $3^2 \times 2^2 \times 5^2$ (2)
22. Anuj pays 12 % of his income towards taxes. If his annual income is ₹ 4,20,000, find the amount paid by him as a tax. (2)
23. Count the number of cubes in the given figure. (2)

i)



ii)

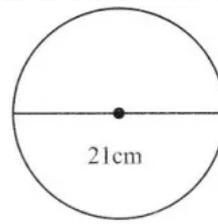
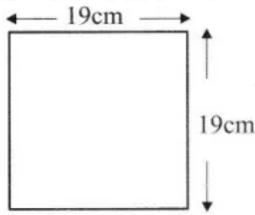


24. What cross-sections do you get when you give a horizontal cut and a vertical cut to a circular wooden log? (2)
25. How much is $2x + 3y - 8z$ greater than $-2x + 7y + 9z$? (2)
26. Find the value of a: $\left[\left(\frac{3}{13}\right)^8\right]^3 = \left(\frac{3}{13}\right)^{a+1}$ (2)

SECTION - C

27. i) Write the following statement as an equation: (3)
 5 subtracted from 3 times a number x gives 7.
 ii) Write the statement for the equation given below:
 $3(x + 6) = 30$
 iii) Check whether the value given in the bracket is a solution to the given equation or not:
 $p + 6 = 11$, ($p = 5$)
28. i) The sum of two integers is -1500. One of the number is 599. Find the other number. (3)
 ii) The product of two integers is -160. If one of them is 20, find the other.
 iii) What integers should be multiplied by (-12) to becomes -300?
29. If $P = 3x^2 + 7x + 8$, $Q = 2x^2 + x - 9$ and $R = -5x^2 - 8x + 1$, Show that $P + Q + R = 0$. (3)
30. Simplify : i) $(6^2 \times 6^4) \div 6^5$ ii) $\frac{2 \times 3^4 \times 2^5}{9 \times 4^2}$ (3)
31. i) Find 1% of 1 hour in seconds. (3)
 ii) Find the whole quantity if 40% of it is 500 km.
32. Evaluate the expression : $a^3 + b^3 + c^3 + 3abc$ where $a = -2$, $b = -3$ and $c = -4$ (3)

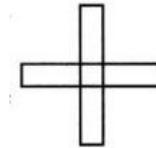
33. A shopkeeper sells two kinds of 'Till Patti'. A square 'Till Patti' of side 19 cm cost ₹ 25 and a circular 'Till Patti' of diameter 21cm cost ₹ 25 which Till Patti is a better deal and why? (3)



34. i) If mean of 9, 5, 7, x, 6 is 6, find the value of x. (3)
 ii) What is the range of these integers?
 20, 6, 18, -15, -12, 0

SECTION - D

35. i) Two poles, 13m and 18m high stand upright on a playground. If their feet are 12m apart, find the distance between their tops. (4)
 ii) PQR is a triangle with $\angle P = 90^\circ$. If $PQ = 10$ cm, $PR = 24$ cm, find the length of QR.
36. i) Find the radius of a circle whose circumference is 308 m. (4)
 ii) The radius of the wheel of the cycle is 35 cm. If it moves slowly on the road, how far will it go in 23 revolutions ?
37. i) After rotation by 60° about a centre, a figure looks exactly the same as its original position. At what other angles will this happen for the figure? (4)
 ii) What letters of the English alphabet have reflectional symmetry about?
 (a) A vertical mirror
 (b) A horizontal mirror
 iii) What is the centre of rotation of an equilateral triangle?
 iv) In the given figure:
 (a) Find the order of rotational symmetry.
 (b) Find the degree measure of the angle of rotation.



38. What is the probability of getting (4)
 i) A dice coming up with a number 7 in single throw of a dice.
 ii) A number less than 7 in single throw of a dice.
 iii) An even number in single throw of a dice.
 iv) A number 3 in single throw of a dice.
39. In a test (+5) marks are given for every correct answer and (-2) marks are given for every incorrect answer. (4)
 (i) Neha answered all the questions and scored 30 marks though she got 10 correct answers. How many incorrect answers did she attempt?
 (ii) Ajay answered 3 correct and 4 incorrect out of 7 questions he attempted. What is his score?