# KENDRIYA VIDYALAYA SANGATHAN,

# REGIONAL OPFFICE MUMBAI

**BRIDGE COURSE FOR CLASS-VII**

**SESSION 2022-2023**

**SUBJECT- MATHEMATICS**

**PREPARED BY:**


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**MODULE – 1**

**TOPIC: PROPERTIES OF WHOLE NUMBERS**

**DAY -1**

**CLASS- VII**

**Date:** **Time: 40 minutes**

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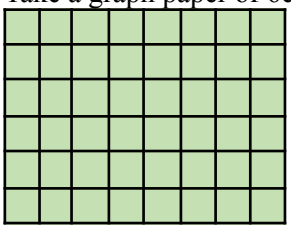
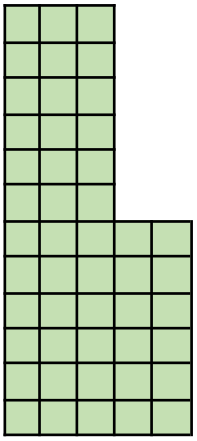
| **TLOs** | To recall the knowledge of natural numbers, whole numbers and using this knowledge to introduce the concept of properties of whole numbers.<br>Students will be able to solve different problems by using properties of whole numbers ie.<br>Closure property<br>Associative Property<br>Distributive Property<br>Commutative property |
| **CONTENT** | **Properties of Whole Numbers** -<br>*Closure property<br>*Commutativity of addition and multiplication<br>*Associativity of addition and multiplication<br>*Distributive Property of multiplication over addition |
| **TLM** | **Graph paper activity** for the explanation of distributive property of multiplication.<br>Take a graph paper of 6cm by 8 cm having squares of 1 cm x 1cm.<br>  <br>This is 6x8. Now cut this graph<br>  <br>Now cut the sheet into two parts, 6x3 and 6x5. We can explain distributive property as:<br>6x8= 6x3+6x5= 6 x (3+5) |

| | |
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| **ASSESSMENT** | 1. Find 12 X 45 by distributive property.<br>2. Find the sum by suitable rearrangement:123+25+77<br>3. Find the value of:<br>346 x 23 +346 x 77 |
| **FEEDBACK** | 1. What you have learnt in this topics?<br>2. What are the interesting things that you like in this topic?<br>3. What are the challenges in this topic? |

**MODULE – 2**

## TOPIC: Addition and subtraction of integers on a number line

**DAY -2**

**CLASS- VII**

**Date:** **Time: 40 minutes**

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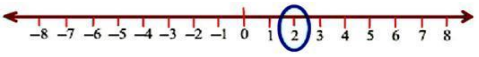
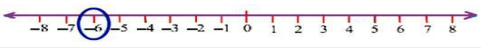
|---|---|
| **TLOs** | To recall the knowledge of whole numbers and integers. To recall that integers form the bigger collection of numbers which contain whole numbers and negative numbers.<br><br>Students will be able to add and subtract integers by using number lines. |
| **CONTENT** | Representation of positive and negative integers on number lines.<br>Use of number line for addition and subtraction of integers. |
| **TLM** | Draw a number line. In the number line the positive numbers are to the right side and the negative numbers are to the left side.<br><br>*Thus, we have integers on the number line as shown in the below figure.*<br><br>  <br><br>**(i)** In order to mark +2 on the number line, we move 2 points to the right side of the zero.<br><br>  <br><br>**(ii)** In order to mark -6 on the number line, we move 6 points to the left side of the zero.<br><br>  |

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|---|---|
| | To add -2 to 3 we will start from -2 and move 3 place on number line in positive direction ie in right side, so that we will reach on 1. Hence the answer is positive 1 or 1. Similarly we can explain subtraction of integers on number lines. |
| **ASSESSMENT** | Solve the following:<br>1. -2+13+2<br>2. 12-14-5<br>3. 10-12-3+12 |
| **FEEDBACK** | 4. What you have learnt in this topics ?<br>5. What are the interesting things that you like in this topic ?<br>6. What are the challenges in this topic ? |

**MODULE – 3**

**TOPIC: Additive and Multiplicative identity of integers**

**DAY -3**

**CLASS- VII**

**Date:** **Time: 40 minutes**

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|---|---|
| **TLOs** | To recall that whole number when added with 0 remain same, therefore 0 is that additive identity of whole numbers.<br>When 1 is multiplied with any whole number then the number remain same, thus we can say that 1 is the multiplicative identity of whole number.<br>We will use this knowledge to introduce additive and multiplicative identity in integers also. |
| **CONTENT** | In general, **a + 0 =0 + a = 0 and a x 1 = 1 x a = a**<br>For any integer we can apply the above given concept**.** |
| **TLM** | Draw a table having 10 negative and 10 positive integers. Now in second column multiply these numbers with 1 and in third column add these numbers with 0, check the result.<br>We will obtained that when we multiply integers with 1, the number remain same and also when we add with 0 then we will only get 0. Hence we can establish that 1 is the multiplicative identity and 0 is the additive identity of integers. |

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| **ASSESSMENT** | Solve the following:<br>1. 0 +25 =<br>2. 30 + 0=<br>3. 30 x1=<br>4. 12 x 1=<br>5. 100 x1=<br>6. 100 +0= |
| **FEEDBACK** | 7. What you have learnt in this topic?<br>8. What are the interesting things that you like in this topic ?<br>9. What are the challenges in this topic ? |

**MODULE – 4**

**TOPIC: PRIME FACTORISATION**

**DAY -4**

**CLASS- VII**

**Date:** **Time: 40 minutes**

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| **TLOs** | To recall the knowledge of prime factorization of whole numbers and student will be able to calculate HCF and LCM by using it.<br>Prime factorization will also be helpful to understand divisibility rules of whole numbers. |
| **CONTENT** | Prime factorization of whole numbers<br>Calculation of HCF and LCM. |

<table>
<tr><td>TLM</td><td>Students will make a table for prime factorization, as(let the number is 120)<br><table><tr><td>1x60=60</td></tr><tr><td>2x30=60</td></tr><tr><td>3x20=60</td></tr><tr><td>4x15=60</td></tr><tr><td>5x12=60</td></tr><tr><td>6x10=60</td></tr></table>By using this table it is clear that the prime factors of 120 will be 1,2,3,4,5,6,10,12,15,20,30,60.</td></tr>
<tr><td>ASSESSMENT</td><td>1. Find Prime factors of given numbers:<br>A) 50<br>B) 250<br>C) 132<br>D) 100</td></tr>
<tr><td>FEEDBACK</td><td>10. What you have learnt in this topics ?<br>11. What are the interesting things that you like in this topic ?<br>12. What are the challenges in this topic ?</td></tr>
</table>

**MODULE – 5**

**TOPIC: BASIC GEOMETRICAL IDEAS**

**DAY -5**

**CLASS- VII**

**Date:** **Time: 40 minutes**

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|---|---|
| **TLOs** | To recall the understanding of basic geometrical ideas for line segment, point, line, ray, curve, polygon and then to leads to the concept of angles. |
| **CONTENT** | Concept of line segment, lines, ray, point, curve and polygons. |
| **TLM** | Draw Ray , line segment, lines, on paper.<br>Draw curve and polygons on paper and name them accordingly. |
| **ASSESSMENT** | 1. In given figure name the polygons:<br>  <br>2. What is the difference between a ray and a line? |
| **FEEDBACK** | 13. What you have understand in this topics ?<br>14. What are the interesting things that you like in this topic ?<br>15. What are the challenges in this topic ? |

**MODULE – 6**

**DAY -6**

**TOPIC – PERIMETER OF RECTANGLE AND SQUARE**

**CLASS- VI**

**Date:** **Time: 40 m**

| | |
|---|---|
| **TLOs** | ● Understands concept of Perimeter<br>● Skilled to derive formula for Perimeter of Rectangle and Square<br>● Feels competent to find his own way and strategies for calculating perimeter<br>● Gets ready to apply the concept for solving day to day based problems. |
| **CONTENT** | PERIMETERE = LENGTH OF THE BOUNDRY OF ANY SHAPES<br>  BREADTH<br>LENGTH<br>PERIMETER OF RECTANGLE = 2(LENGTH + BREADTH)<br>  PERIMETER OF SQUARE = 4 X LENGHT<br>LENGTH |
| **TLM** | Different shapes of cards<br>Different colors of pebbles<br>Compass Box<br>Flashcards<br>Folding paper<br>Thread |
| **ASSESSMENT** | 1. Find the perimeter of following figure<br>A.  3cm<br>7 cm<br>B.  <br>5 CM |

| | |
|---|---|
| **FEEDBACK** | • What are the interesting things in this topic<br>• What are the challenges in this topic<br>• What do you learn from this topic |

## MODULE – 7

**DAY -7**

**TOPIC – AREA OF RECTANGLE AND SQUARE**

**CLASS- VI**

**Date:** **Time: 40min**

| | |
|---|---|
| **TLOs** | • Understands concept of AREA<br>• Skilled to derive formula for area of Rectangle and Square<br>• Feels competent to find his own way and strategies for calculating area<br>• Gets ready to apply the concept for solving day to day based problems. |
| **CONTENT** |  <br>BREADTH<br>LENGTH<br>AREWA OF RECTANGLE = (LENGTH X BREADTH)<br>  <br>AREA OF SQUARE = SIDE X SIDE<br>LENGTH |
| **TLM** | Different shapes of cards<br>Different colors of pebbles<br>Compass Box<br>Flashcards<br>Folding paper<br>Thread |

| | |
|---|---|
| **ASSESSMENT** | 2. Find the Area of following figure<br>  <br><br>B.<br>  <br> |
| **FEEDBACK** | • What are the interesting things in this topic?<br>• What are the challenges in this topic?<br>• What did you learn from this topic? |

## MODULE – 8

**DAY -8**

**TOPIC -PERIMTER AND AREA OF REGULAR and IRREGULAR SHAPES**

**CLASS- VI**

**Date:** **Time: 40 min**

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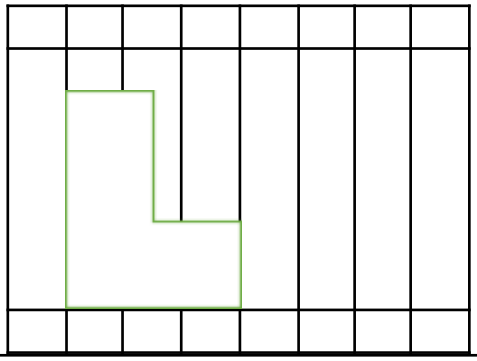
|---|---|
| **TLOs** | • Understands concept of perimeter and area of regular shapes<br>• Feels competent to find his own way and strategies for calculating area and perimeter<br>• Gets ready to apply the concept for solving day to day-based problems. |
| **CONTENT** | • Understanding the concept of Perimeter<br>• Knowledge of terminology related to Mensuration, Units of measurement<br><br>PERIMETER OF ANY SHAPES = SUM OF ALL SIDES OF SHAPES<br>  |

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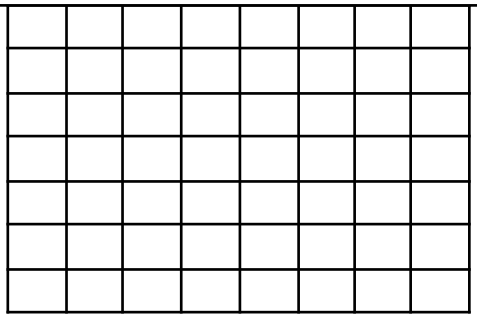
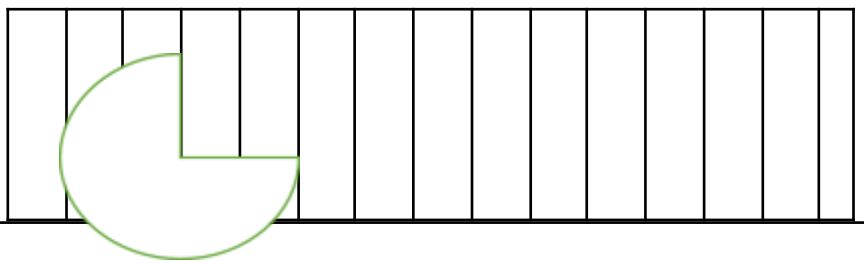
| |  <br>AREA :- The amount of surface enclosed by a closed figure is called its area.<br><br>AREA OF CLOSESD FIGUR<br>= NO OF SQUAES |
| **TLM** | Different shapes of cards<br>Different colors of pebbles<br>Compass Box<br>Flashcards<br>Folding paper<br>Thread<br>Graph Paper |
| **ASSESSMENT** | Find the perimeter of each of the following shapes :<br>(a) A triangle of sides 3 cm, 4 cm and 5 cm.<br>(b) An equilateral triangle of side 9 cm.<br>(c) An isosceles triangle with equal sides 8 cm each and third side 6 cm<br><br>Find the areas of the following figures by counting square:<br><br>  |

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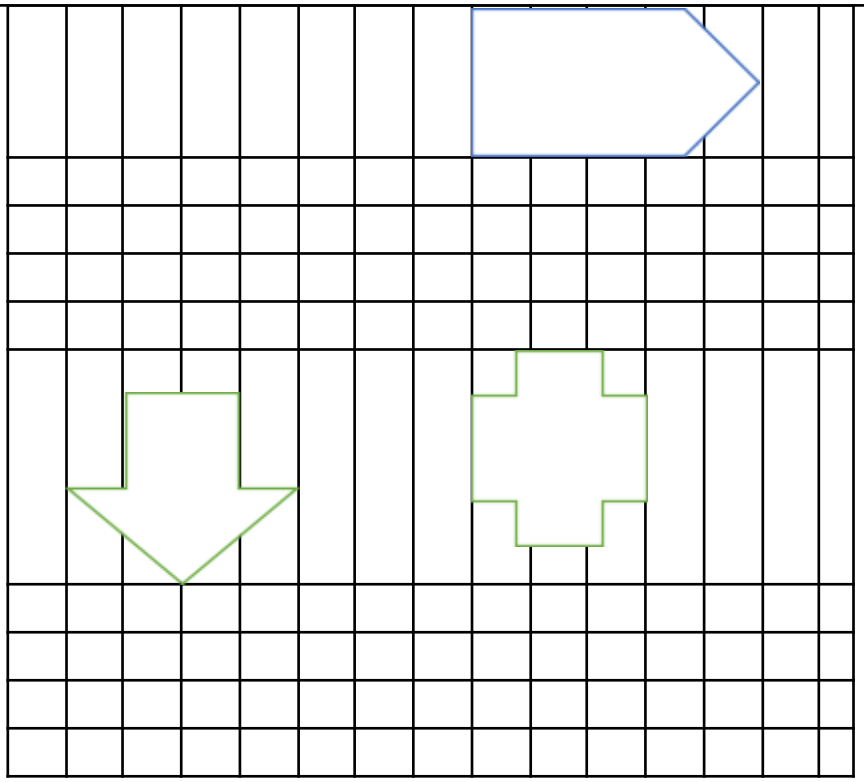
| |  |
| **FEEDBACK** | • What are the interesting things in this topic?<br>• What are the challenges in this topic?<br>• What did you learn from this topic? |

## MODULE – 9

**DAY -9**

**TOPIC - ALGEBRA**

**CLASS- VI**

**Date:** **Time: 40 M**

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|---|---|
| **TLOs** | ● Understands and expresses the unknown quantity in the form of variables, Equality and Inequality<br>● Expresses the word problems into algebraic form and solves at initial level<br>● Uses variables to write different rules in the form of Formulae<br>● Forms word problems based on given expression in his own language.<br>Develops his own strategy to solve and form different expressions. |

| | |
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| **CONTENT** | • Understanding Basic Concepts ( Unknown Quantity- Abstract Form)<br>• Analyzing Skill<br>• Computational ( Multiples based)<br>• Application ( Unknown quantity applied to real life expression to Maths form )<br>• Correlation to other subjects and development of their basics as formulae |
| **TLM** | Dummy currency<br>Simple Balance<br>Number chart<br>Flashcards<br>Folding paper |
| **ASSESSMENT** | . Are these equations true, false or open?<br>• 11 - 3 = 5 * 13 + 4 = 17<br>• N + 4 = 7 * 12 – 3 = 8<br>• 3 + v = 13<br>2. Solve these equations using the inverse operations<br>• n + 4 = 7 * n – 5 = 4<br>• n + 4 = 17 * n – 6 = 13<br>3.Solve these equations using the commutative property<br>n + 7 = 7 + 4 n = 4<br>m + 2 = 2 + 5 m = 5 |
| **FEEDBACK** | • What are the interesting things in this topic?<br>• What are the challenges in this topic?<br>• What did you learn from this topic? |

## MODULE – 10

**DAY -10**

**TOPIC - TRIANGLE**

**CLASS- VI**

**Date:** **Time: 40 M**

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| **TLOs** | • Understands the basic concept of triangles<br>• Understands the different types of triangles |

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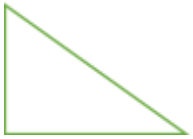
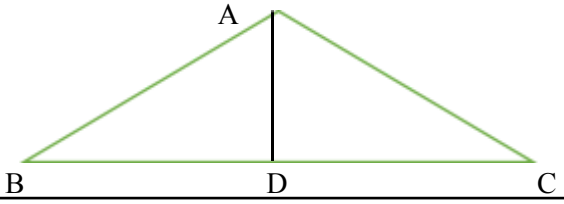
|---|---|
| **CONTENT** | A triangle is a three-sided polygon. In fact, it is the polygon with the least number of sides<br>Types of Triangles :<br>1. Equilateral Triangle  <br>2. Isosceles Triangle  <br>3. Scalene triangle  <br>4. Right angle triangle  |
| **TLM** | Different shapes of cards<br>Different colors of pebbles<br>Compass Box<br>Flashcards<br>Folding paper |
| **ASSESSMENT** | . Draw three different triangles<br>. Write the identification of different types of triangles<br>. Draw a rough sketch of a triangle ABC. Mark a point P in its interior and a point Q in its exterior<br>. Identify three triangles in the figure<br>  |
| **FEEDBACK** | • What are the interesting things in this topic?<br>• What are the challenges in this topic?<br>• What did you learn from this topic? |

**MODULE – 11**

**DAY -11**

**TOPIC – LINES AND ANGLES**

**CLASS- VI**

**Date:** **Time: 40 M**

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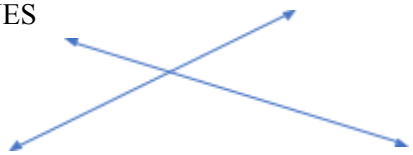
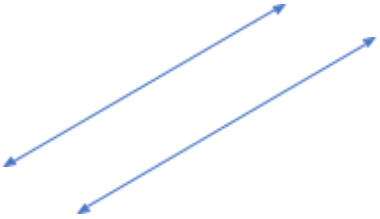
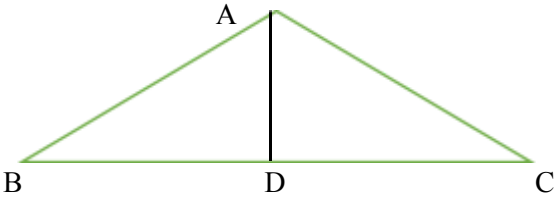
|---|---|
| **TLOs** | • Understands the basic concept of lines and angles<br>• Understands the line and line segment and different types of angles |
| **CONTENT** | LINE : $\overline{AB}$<br>  <br><br>INTERSECTING LINES<br>  <br>PARALLEL LINES<br>  <br>ANGLES<br>1.ACUTE ANGLE<br>$=0^0$ TO $90^0$<br><br>2.OBTUSE ANGLE<br>=MORE THAN $90^0$ AND LESS THEN $180^0$<br><br>3. STRAIGHT ANGLE<br>$=180^0$<br><br>4, RIGHT ANGLE= $90^0$ |
| **TLM** | Different shapes of cards<br>Compass Box<br>Flashcards<br>Folding paper |
| **ASSESSMENT** | . Draw three different pair of lines<br>. Write the identification of different types of angles<br><br>. Identify three different angle and write their name from the figure<br>  <br> |
| **FEEDBACK** | • What are the interesting things in this topic?<br>• What are the challenges in this topic?<br>• What did you learn from this topic? |

**DAY -12**

**CLASS- VII**

**Date: 14/03/2022** **Time: 40 minutes**

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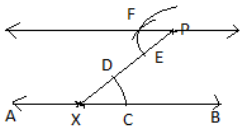
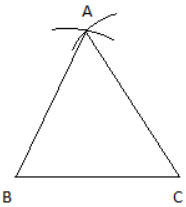
| **TLOs** | *By recalling the knowledge of construction learnt in class VI make a bridge module for the teaching of topic 'PRACTICAL GEOMETRY' in class VII.<br>*To able the students to draw parallel lines.<br>* To able the students to construct triangles<br>*To develop Decision Making Creative thinking Drawing Skill in students |
| **CONTENT** | **(i) TO DRAW A LINE PARALLEL TO A GIVEN LINE THROUGH A GIVEN POINT NOT ON THE LINE**<br>**(ii) To draw a triangle whose three sides are given.** |
| **TLM** | **(i) Demonstrate the construction on the board.**<br>  <br><br>**1.Draw the given line AB and mark the point P not on AB.**<br>**2. Mark a point X on AB and join PX.**<br>**3. With a suitable radius draw an arc which intersect AB and PX at C and D respectively.**<br>**4. With the same radius draw an arc with P as centre which intersects PX at E.**<br>**5. Measure CD by using compasses and cut the arc from E at F.**<br>**6. Join PF which is the required line.**<br><br>**(ii) Demonstrate the construction on the board.**<br>  <br><br>**1. Draw the side BC with the given length**<br>**2. With B as centre and BA as radius draw an arc and with C as centre and CA as radius draw another arc which intersect the previous arc at A.**<br>**3. Join AB and AC such that ABC is the required triangle.** |

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| **ASSESSMENT** | Q1 Draw a line L. Draw a perpendicular through any point P on it. Take a point Q on perpendicular 5cm away from P. Draw a line through Q parallel to L.<br>Q2. Construct triangle PQR whose sides are PQ= 4cm, QR=3.5cm &PR=4cm. |
| **FEEDBACK** | Q.1 What have I learnt?<br>Q.2 what I found challenging?<br>Q.3 what I found interesting? |

**MODULE – 13**

**DAY -13**

**CLASS- VII**

**Date: 14/03/2022** **Time: 40 minutes**

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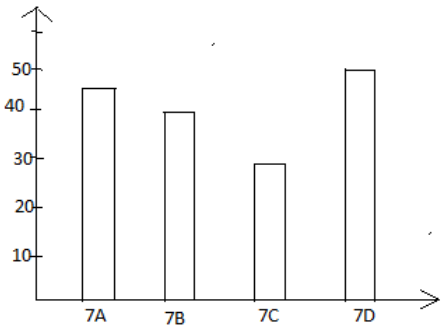
|---|---|
| **TLOs** | *By recalling the knowledge of DATA learnt in class VI make a bridge module for the teaching of topic 'DATA HANDLING' in class VII.<br>*To able the students Interpretation of data<br>* To able the students to To draw Bar graph<br>*To develop Analytical skill Computational Skill. |
| **CONTENT** | **(i)** To draw bar graph and interpretation of the data represented on it.<br>**(ii)** To find mean and mode of given data. |
| **TLM** | **(i) BAR GRAPH**<br>A bar graph is a representation of numbers using bars of uniform widths.<br>Double bar graphs help to compare two collections of data at a glance.<br>**Explain how to draw the bar graph by demonstrating a sample**<br>**CLASS** \| **NO. OF STUDENTS**<br>**7A** \| **45**<br>**7B** \| **40**<br>**7C** \| **30**<br>**7D** \| **50**<br>  <br><br>**(ii) Mean:** It is found by adding all the values of the observations and dividing it by the total number of observations.<br>$Mean = \frac{Sum\ of\ all\ the\ observations}{Total\ number\ of\ observations}$<br>***Mode :*** The mode is the most frequently occurring observations |
| | Q.1. The scores in Mathematics test of 15 students is a s follows: |

| | |
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| **ASSESSMENT** | 19,25,23,20,9,20,15,10,5,16,25,20,24,12,20.<br>Find the mean and mode of the data.<br>Q.2 **Explain how to represent a data by a Bar graph. Consider marks of the students in four sections 7th std in maths.**<br><br>**CLASS** \| **Marks**<br>**7A** \| **45**<br>**7B** \| **40**<br>**7C** \| **36**<br>**7D** \| **42** |
| **FEEDBACK** | Q.1 What have I learnt?<br>Q.2 what I found challenging?<br>Q.3 what I found interesting? |

## MODULE – 14

**DAY -14**

**CLASS- VII**

**Date:** **Time: 40 minutes**

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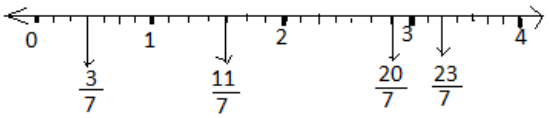
| **TLOs** | *By recalling the knowledge of FRACTION learnt in class VI make a bridge module for the teaching of topic 'RATIONAL NUMBERS' in class VII.<br>*To increase Ability to compute, Problem solving<br>*To develop Creative Thinking . |
| **CONTENT** | (i) To enable the students to understand and extends the number family from natural number to fractions through integers and whole numbers.<br>(ii) Understand the rational numbers and their difference from fractions.<br>(iii) Rational Numbers between two Rational Numbers. |
| **TLM** | (i) **Explain the method of representation of fractions on the number line by drawing it.**<br>  <br><br>**(ii) Make the children understand what is a rational number- the number which can be expressed in the form of $\frac{p}{q}$, where p and q are integers. In rational numbers negatives are also there.**<br>**Eg:-** $\frac{1}{2}$, $\frac{-3}{4}$, $\frac{5}{1}$, $\frac{5}{-7}$, $\frac{-3}{1}$ **etc are rational numbers.**<br>**Hence all integers are rational numbers with the denominator 1**<br>**(iii) Explain how to insert a given number of rational numbers between a given pair of rational numbers by making the denominators the same.** |

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| | $\frac{-1}{2}$ *and* $\frac{1}{3}$<br>$\frac{-1}{2} = \frac{-15}{30}$<br>$\frac{1}{3} = \frac{10}{30}$ **Then** $\frac{-14}{30}, \frac{-13}{30}, \frac{-12}{30}$ **etc. are rational numbers between** $\frac{-1}{2}$ *and* $\frac{1}{3}$**.** |
| **ASSESSMENT** | Q.1. Find Sum<br>$-5\frac{7}{5}+3\frac{4}{3}$<br>Q.2 Find<br>$\frac{5}{64}-(-\frac{7}{32})$<br>Q.3 find any two rational numbers between given rational number<br>$\frac{1}{2}$ *and* $\frac{1}{3}$ |
| **FEEDBACK** | Q.1 What have I learnt?<br>Q.2 what I found challenging?<br>Q.3 what I found interesting? |

## MODULE – 15

**DAY -15**

**CLASS- VII**

**Date:** **Time: 40minutes**

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| **TLOs** | *By recalling the knowledge of FRACTION learnt in class VI make a bridge module for the teaching of topic 'FRACTION' in class VII.<br>*To increase Ability to compute, Problem solving<br>*To develop Creative Thinking . |
| **CONTENT** | (i) Applies the basic operations on the Fractions to find sum and difference of fractions and enhances computational skill<br><br>(ii) Multiplication of a Fraction by a Whole Number<br>* Fraction as an operator 'of'<br>*Multiplication of a Fraction by a Fraction<br>*Value of the Products |

| | |
|---|---|
| **TLM** | (i) **by using LCM, add or subtract the given fraction**<br>$\frac{5}{6}+\frac{2}{5}=\frac{25}{30}+\frac{12}{30}=\frac{25+12}{30}=\frac{37}{30}$<br>$\frac{5}{6}-\frac{2}{5}=\frac{25}{30}-\frac{12}{30}=\frac{25-12}{30}=\frac{13}{30}$<br>**(ii)** *To multiply a mixed fraction to a whole number, first convert the mixed fraction to an improper fraction and then multiply*<br>therefore $3\times2\frac{5}{7}=3\frac{19}{7}=\frac{57}{7}=8\frac{1}{2}$<br>□ Find $\frac{1}{2}$ of (i) 24 (ii) 46<br>½*24 = 12 and ½*46 = 23<br>□ Multiply the given faction $\frac{5}{7}\times\frac{12}{7}=\frac{60}{7}$ |
| **ASSESSMENT** | Q.1.Add and shade the total parts in the answer picture. Write the addition sentence.<br>(a)<br>  <br>(b)<br>  <br>(c)<br>  <br>Q.2. Michael 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? |
| **FEEDBACK** | Q.1 What have I learnt?<br>Q.2 what I found challenging?<br>Q.3 what I found interesting? |

**MODULE – 16**

**DAY -16**

**CLASS- VII**

**Date:** **Time: 40 minutes**

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|---|---|
| **TLOs** | *By recalling the knowledge of FACTORS learnt in class VI make a bridge module for the teaching of topic 'EXPONENT AND POWERS' in class VII.<br>*To able the students to understand the application of factors<br>*To develop Analytical skill Computational Skill. |
| **CONTENT** | **(i)** Prime factorisation of numbers.<br>**(ii)** Meaning of Exponents and Power & Expressing large numbers in the form of exponents. |
| **TLM** | **(i) prime factorisation of 256 is**<br>**2x2x2x2x2x2x2x2**<br>**(ii)** exponential form for $8 \times 8 \times 8 \times 8$ taking base as 2 is $2^{12}$.<br>Where 2 is base and 12 is known as exponents.<br>(a) $a^m \times a^n = a^{m+n}$<br>(b) $a^m \div a^n = a^{m-n}$, $m > n$<br>(c) $(a^m)^n = a^{mn}$<br>(d) $a^m \times b^m = (ab)^m$<br>(e) $a^m \div b^n = (a \div b)^m$<br>(f) $a^0 = 1$<br>(g) $(-1)^{\text{even number}} = 1$<br>$(-1)^{\text{odd number}} = -1$<br>Activity 1 - What is $a^0$ ?<br>Observe the following pattern:<br>$2^6 = 64$<br>$2^5 = 32$<br>$2^4 = 16$<br>$2^3 = 8$<br>$2^2 = ?$<br>$2^1 = ?$<br>$2^0 = ?$ |
| **ASSESSMENT** | Q.1. Find five more such examples, where a number is expressed in exponential form. Also identify the base and the exponent in each case.<br>Q.2. Work out $(1)^5$, $(-1)^3$, $(-1)^4$, $(-10)^3$, $(-5)^4$.<br>Q.3. Expand $a^3 b^2$ , $a^2 b^3$, $b^2 a^3$, $b^3 a^2$. Are they all same? |
| **FEEDBACK** | Q.1 What have I learnt?<br>Q.2 what I found challenging?<br>Q.3 what I found interesting? |

**MODULE – 17**

**DAY -17**

**CLASS - VII**

**Date:** **Time: 40 minutes**

<table>
<tr><td>TLOs</td><td>*By recalling the knowledge of DECIMALS learnt in class VI make a bridge module for the teaching of topic ‘DECIMALS’ in class VII.<br>*To increase Ability to compute, Problem solving<br>*To develop Creative Thinking.<br>*To able the students to understand about Decimals<br>* To develop skill to Compare decimal numbers<br>*To able the students about the concept of addition and subtraction of decimals</td></tr>
<tr><td>CONTENT</td><td>(i) fractions as decimals<br>(ii) Multiplication of decimals.<br>(iii) Division of decimal numbers</td></tr>
<tr><td>TLM</td><td>(i) Fractions as decimals<br>We have already seen how a fraction with denominator 10 can be represented using decimals.<br>Let us now try to find decimal representation of 11/5<br>We know that 11/5 can be represented by $\frac{11\times2}{5\times2} = \frac{22}{10} = 2.2$ ( in decimal notation)<br>(ii) multiplication of 0.2 and 0.7 is<br>Both numbers can be represented by $\frac{2}{10} \times \frac{7}{10} = \frac{14}{100} = 0.14$<br>(iii) To understand the rules to divide decimal numbers by 10 or 100 or 1000<br>$456.25 \div 100 = 4.5625$</td></tr>
<tr><td>ASSESSMENT</td><td>Q.1 convert 1cm in 1m<br>Q2. Convert 1g in 1kg.<br>Q.3. A vehicle covers a distance of 43.2 km in 2.4 litres of petrol. How much distance will it cover in one litre of petrol?<br>Q.4. complete the following table:
<table>
<tr><th>Hundreds<br>(100)</th><th>Tens<br>(10)</th><th>Ones<br>(1)</th><th>Tenths<br>$\left(\frac{1}{10}\right)$</th><th>Hundredths<br>$\left(\frac{1}{100}\right)$</th><th>Thousandths<br>$\left(\frac{1}{1000}\right)$</th><th>Number</th></tr>
<tr><td>2</td><td>5</td><td>3</td><td>1</td><td>4</td><td>7</td><td>253.147</td></tr>
<tr><td>6</td><td>2</td><td>9</td><td>3</td><td>2</td><td>1</td><td>.....</td></tr>
<tr><td>0</td><td>4</td><td>3</td><td>1</td><td>9</td><td>2</td><td>.....</td></tr>
<tr><td>.....</td><td>1</td><td>4</td><td>2</td><td>5</td><td>1</td><td>514.251</td></tr>
<tr><td>2</td><td>.....</td><td>6</td><td>5</td><td>1</td><td>2</td><td>236.512</td></tr>
<tr><td>.....</td><td>2</td><td>.....</td><td>5</td><td>.....</td><td>3</td><td>724.503</td></tr>
<tr><td>6</td><td>.....</td><td>4</td><td>.....</td><td>2</td><td>.....</td><td>614.326</td></tr>
<tr><td>0</td><td>1</td><td>0</td><td>5</td><td>3</td><td>0</td><td>.....</td></tr>
</table></td></tr>
<tr><td>FEEDBACK</td><td>Q.1 What have I learnt?<br>Q.2 what I found challenging?<br>Q.3 what I found interesting?</td></tr>
</table>

## MODULE – 18

**DAY -18**

**CLASS- VII**

**Date:** **Time: 40 min**

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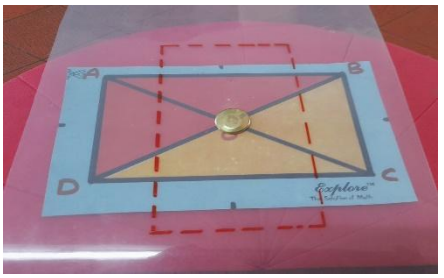
|---|---|
| **TLOs** | *By recalling the knowledge of symmetry learnt in class VI make a bridge module for the teaching of topic 'SYMMETRY' in class VII.<br>*To able the students to understand about symmetrical objects in surrounding and nature.<br>* To develop skill to draw symmetrical shapes and line of symmetry.<br>*To able the student Rotational symmetry . |
| **CONTENT** | Introduction of symmetry by using objects available in the surroundings .<br>To find line of symmetry & rotational symmetry in different shapes. |
| **TLM** | **Activity-1** Draw two identical Rectangles, one-ABCD on a piece of paper and the other on a transparent sheet. Mark the points of intersection of their diagonals, O Place the Rectangles as shown in image-<br>Stick a pin into the shapes at the point O.<br>Now turn the transparent shape in the clockwise direction.<br>How many times do the shapes coincide in one full round?<br>What is the order of rotational symmetry?<br>   <br>**Activity-2** Repeat this activity for Rhombus as shown in image below-<br>   |

| | |
|---|---|
| **ASSESSMENT** | Q1 Draw five symmetrical objects from your surroundings and draw their line of symmetry.<br>Q2. Name the quadrilaterals which have both line and rotational symmetry of order more than one.<br>Q3. Draw a triangle with both line and rotational symmetries of order more than 1.<br>Q4 Name four capital English Alphabets having 2 line of symmetry each. |
| **FEEDBACK** | Q.1 What have I learnt?<br>Q.2 what I found challenging?<br>Q.3 what I found interesting |

## Assessment Based on all 18 modules

Max Marks:40 Time: 90 Min

Q No:1- Draw five symmetrical objects from your surroundings and draw their line of symmetry.

Q No:2- A vehicle covers a distance of 43.2 km in 2.4 litres of petrol. How much distance will it cover in one litre of petrol?

Q NO:3- The scores in Mathematics test of 15 students is a s follows:

19,25,23,20,9,20,15,10,5,16,25,20,24,12,20. Find the mean and mode of the data.

Q NO:4- Find the sum by suitable rearrangement:123+25+77

Q NO:5- Find Prime factors of given numbers:
50 ,250 and 132

Q NO:5-. Write the identification of different types of angles

Q NO:7- Q1 Draw a line L. Draw a perpendicular through any point P on it. Take a point Q on

perpendicular 5cm away from P. Draw a line through Q parallel to L.

Q NO:8- What is the difference between a ray and a line?

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