## HAPPY DAYS SCHOOL, SHIVPURI (M.P.) <br> DEPARTMENT OF MATHEMATICS

CLASS: I

| MONTH | CHAPTER | EXPECTED <br> LEARNING OUTCOMES | PEDAGOGICAL APPROACH (TEACHING METHODS/ STRATEGIES) | $\begin{gathered} \text { ASSESSMENT } \\ \text { TOOLS } \end{gathered}$ | RUBRICS | ART INTEGRATION | ICT INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Numbers 1 to 9 | Students will understand that numbers are related to the numbers around them (numbers 1 to 9 , number names, bigger or smaller, more or less, before , after, between, equal or not equal and ordering) | Constructive <br> Inquiry Based | Worksheet Hands on activity Asking riddles Home assignments | Approach meeting exceeding Based on topic, Sequence, neatness | Draw missing numbers, before, after, between, ordering in the note book. Make a necklace with beads and string | Video based on topic |
| JULY | Addition | Students will understand that adding ' + ' means finding how many in all when groups are put together or something new is added. | Constructive, Inquiry Based | Worksheet Hands on activity Asking riddles | Approaching meeting exceeding. Relevant to the topic, creativity, neatness | Make story based on addition | Animated video based on addition |
|  | PRE MID TERM EXAM |  |  |  |  |  |  |
| AUGUST | Subtraction | Students will understand that subtraction shows things away \& there are strategies for subtracting quickly. | Constructive, Integrative | Worksheet and different objects | Approaching meeting exceeding. | Draw three <br> colourful strings  <br> and paste Bindi in  <br> the strings and <br> match the <br> numbers in <br> notebook.  | Animated video on different numbers. |

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| SEPTEMBER | Position | Students will understand that we can describe the position of different objects around us using everyday language. On - under, above - below, before, between, after, inside - outside, topbottom, near - far | Constructive, <br> Integrative, <br> Inquiry Based | Worksheet Hands on activity <br> Home assignment | Approaching meeting exceeding | Make or draw a picture story about position | Animated video. <br> Show different objects |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| OCTOBER | Shapes | Students will understand about different shapes, similar shapes, same size shapes, shapes that slide and roll | Constructive, Integrative | Worksheet Hands on activity Home assignment | Approaching <br> meeting <br> exceeding. <br> Relevant to the <br> topic, <br> creativity, <br> neatness | Colored paper folding activity | Video based on addition. |
|  | MID TERM EXAM |  |  |  |  |  |  |
|  | Numbers 10 to $20$ | Students will understand that numbers are related to the numbers around them (numbers 10 to 20), number names, tens or ones concept, more or less, backward counting, ordering. | Constructive, Inquiry based | Worksheet Hands on activity Home assignment | Approaching meeting exceeding | Toothpick activity | Video based on subtraction. |
| NOVEMBER | Numbers 21 to 99 | Students will understand that numbers are related to the numbers around them (21 to 99), number names, more or less, backward counting, ordering | Constructive, integrative | Hands on activity | Relevant to the topic, creativity, neatness | Draw abacus and paste colourful bindi | Video based on length. |

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|  | Addition and Subtraction | Adding 2-digit and 1- digit number, addition of 2 digit numbers, number line, carry over method, word problems. Subtracting 1digit number from 2- digit number, subtracting 2digit number, number line, subtraction by borrowing, word problems. | Constructive, Inquiry | Worksheet <br> Hands on activity | Approaching meeting exceeding. | Number stickers activity | Animated video based on activity. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Patterns | Students will understand that a pattern repeats and patterns can be seen around us. | Constructive, Inquiry | Class test | Relevant to the topic, creativity, neatness | Pattern activity using different objects. | Animated video based on patterns. |
| DECEMBER | POST-MID TERM EXAM |  |  |  |  |  |  |
|  | Time | Students will understand the reading of time, days of the week. | Constructive, Inquiry | Home assignment |  | Draw and colour watch | Animated video based on time |
|  | Money | Students will understand that Indian currency uses coins and notes that can be combined in different ways (rupees up to 2000) | Constructive, Inquiry based | Worksheet Hands on activity | Approaching meeting exceeding | Draw/paste stickers of currency notes and coins. | Video based on Money |
|  | Measurement | Students will understand that length measures how long something is, weight measures how heavy something feels and | Constructive, integrative | Class test <br> Home assignment | Relevant to the topic, creativity, neatness | Students will check the length, weight and capacity according to the given objects.. | Video based on topic. |

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## HAPPY DAYS SCHOOL, SHIVPURI (M.P.) <br> DEPARTMENT OF MATHEMATICS

CLASS: II

| MONTH | CHAPTER | EXPECTED LEARNING OUTCOMES | PEDAGOGICAL APPROACH (TEACHING METHODS/ STRATEGIES) | $\begin{gathered} \hline \text { ASSESSMENT } \\ \text { TOOLS } \end{gathered}$ | RUBRICS | $\begin{gathered} \text { ART } \\ \text { INTEGRATION } \end{gathered}$ | ICT <br> INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Let's Revise | Students will understand that the numbers from 0 to 99. number name, after and before, smallest and biggest pattern | Constructive, Inquiry based | Worksheet, Hands on activity | Approach Meeting Exceeding | Draw place value blocks | video |
|  | Number 100 to 200 | Students will understand number from 100 to 110 , expanded form, face value, place | Constructive, Inquiry based | Worksheet Home assignment | Sequence neatness | Diagram and chart | Number Song |
| JULY | Number up to 200 to 999 | Students will understand Number from 201 to 300,401 to 500,601 to 700,801 to 900 , counting in hundreds tens and one's place value and face value , numbers ordering of numbers. And numbers from 301 to 400,501 to 600,701 to 800,901 to 1000 , counting on the because expanded form before after and between making new numbers | Constructive, Inquiry based | Worksheet, | Approach Meeting exceeding | Use a number line, the numbers are marked at equal distances and in order from left to right <br> Match ordinal with their cardinal numbers | video on a number line |
|  | PRE-MID TERM EXAM |  |  |  |  |  |  |
| AUGUST | Addition | student will understand adding 2 -digit and 3 -digit numbers, addition on a number line, expanded form, | Constructive, Integrative | Worksheet Class test | Approach meeting exceeding | Demonstration by objects | Video on addition and subtraction |

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|  |  | carry over method, skip counting, word problems |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| SEPTEMBER | Subtraction | Students will understand addition and subtraction facts, column method, checking subtraction, word problems, subtraction by borrowing, finding the missing digits add or subtract | Constructive, Integrative, collaborative | Worksheet, Hands on activity | Approach meeting exceeding | Smash play doh | Video song on subtraction |
|  | Measurement | Student will understand measuring length (paper clip) and subtraction of length measuring weight (Clay balls) | Constructive, Collaborative, Integrative | Concept Interesting involvement | Approach meeting exceeding | Make a model of beam balance with waste material | Video of measurement |
| $\square$ MID TERM EXAM |  |  |  |  |  |  |  |
| OCTOBER | Measurement | Students will understand addition and subtraction of weight, measuring capacity (Cups), addition and subtraction of capacity | Constructive, integrative, Inquiry method | Home assignment and class test | Approach meeting Exceeding | Learn to use of beam balance | video |
| NOVEMBER | Multiplication | Students will understand station on a number line tables, multiplication, offer two-digit number by one digit number, multiplication of a three-digit number by a onedigit number, carry over multiplication facts, multiplication methods, multiplication 10,20,30,40.... | Constructive, integrative, Inquiry method | Worksheet | Approach meeting Exceeding | Activity through ice-cream stick |  |

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|  | Division | Students will understand division as a repeated subtraction, relation between multiplication and division, facts concept of remainder long division method, word problems | Constructive, integrative, Inquiry method | Worksheet home assignment | Approach meeting Exceeding | Division through story of Bihar | Animated video on division |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| DECEMBER | Basic Geometry | Students will understand solid shapes, vertical and horizontal line, tracing shapes, straight and curved line | Constructive Inquiry based integrative | Worksheet | Approach Meeting Exceeding | Draw or make different types of shapes | Video <br> Based on songs on shapes |
|  | POST MID TERM EXAM |  |  |  |  |  |  |
|  |  |  | Constructive | - |  |  |  |
|  | Time | Students will understand how to read time calendar and word problem | Constructive <br> Inquiry based integrative | Worksheet | Approach Meeting Exceeding | Draw a clock of chart paper and color it | Video song on time |
| JANUARY | Money | Students will understand that we can pay and get back change using different combinations of rupees and paise. | Constructive <br> Integrative | Worksheet | Approach meeting exceeding | Role play for currency game | Video on money |
| FEBRUARY | Data handling | Students will understand that we can organize and display data in different way to understand and use the information quickly | Constructive | Make a graph | Approach meeting exceeding | Draw and make table according to given data. |  |
|  | Pattern | Students will understand that a pattern can repeat or grow in a way that we can predicts. | Integrative | Worksheet | Approach meeting exceeding | Draw your own pattern with matchstick. |  |
| MARCH | ANNUAL EXAMINATION |  |  |  |  |  |  |

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## HAPPY DAYS SCHOOL, SHIVPURI (M.P.) <br> DEPARTMENT OF MATHEMATICS

CLASS: III

| MONTH | CHAPTER | EXPECTED <br> LEARNING OUTCOMES | PEDAGOGICAL APPROACH (TEACHING METHODS/ STRATEGIES) | $\begin{gathered} \text { ASSESSMENT } \\ \text { TOOLS } \end{gathered}$ | RUBRICS | ART INTEGRATION | ICT <br> INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Numbers up to 9999 | Number Name. Place value and face value. Understand 4digit number. Ascending and descending order | Constructive, Integrative. Inquiry based | Worksheet | Approach, Meeting, Exceeding | Make abacus using clay. | Animated video on mental problem solving |
| JULY | Addition and subtraction. | Adding and subtracting by carrying or borrowing | Constructive, Story based | Worksheet | Approach, Meeting, Exceeding | Paper plate game | Animated video on addition |
|  | PRE-MID-TERM EXAM |  |  |  |  |  |  |
| AUGUST | Multiplying | Multiplying 2-digit by 1-digit number | Constructive Inquiry based | Worksheet survey | Approach, Meeting, Exceeding Concept presentation | Multiplying flower | Animated video on multiplying by skip counting |
| SEPTEMBER | Division | Davison of 2-digit by 1-digit number | Constructive | Worksheet Block assessment | Approach, Meeting, Exceeding | Division house |  |
|  | REVISION FOR PRE-MID TERM EXAM |  |  |  |  |  |  |
|  | MID-TERM EXAMINATION |  |  |  |  |  |  |
| OCTOBER | Money | Symbol of Rupee, Conversion of Rupee into paisa and paisa into Rupee | Constructive integrative | Worksheet | Approach, Meeting, Exceeding | Identification of currency | Animated video on multiplication |
| NOVEMBER | Fraction | Part of whole, as half, one third and one fourth | Constructive, Integrative | Worksheet MCQ | Approach, Meeting, Exceeding | Activity | Animated video |

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|  | Geometrical Shapes | Understand 2-D and 3-D shapes and identify | Constructive, Integrative Inquiry based, | Worksheet MCQ | Approach, Meeting, Exceeding | Activity | Animated video |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | REVISION FOR POST MID TERM EXAM |  |  |  |  |  |  |
| DECEMBER | POST MIDTERM EXAMINATION |  |  |  |  |  |  |
|  | Measurement of length and weight | Understand capacity and conversion | Constructive integrative | Worksheet | Approach, Meeting, Exceeding | Balancing activity | Animated video |
| JANUARY | Capacity | Understanding concept of capacity | Constructive integrative |  |  | Activity using liters |  |
|  | Time | Understand, Reading and writing the time, Conversion time to days, hours, minutes and seconds | Constructive, Integrative Inquiry based | Worksheet |  | Making clock using cardboard | Animated video |
| FEBRUARY | Data Handling | Understand Data By pictograph | Constructive, Integrative Inquiry based | Test | Lab Activity |  | Animated video |
|  | Pattern | Identify pattern | Constructive, Integrative Inquiry based | Worksheet |  | Make a neckless using different pattern | Animated Video |
|  | REVISION FOR EXAM |  |  |  |  |  |  |
| MARCH | ANNUAL EXAMINATION |  |  |  |  |  |  |

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CLASS: IV

| MONTH | CHAPTER | EXPECTED <br> LEARNING OUTCOMES | PEDAGOGICAL APPROACH <br> (TEACHING METHODS/ STRATEGIES) | ASSESSMEN <br> T TOOLS | RUBRICS | ART <br> INTEGRATION | ICT <br> INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Numbers upto 9,99,999 | Write the place value, face value and value of digits in 5-digit numbers. Write in expanded form and number names of 5digit numbers. <br> Compare 5-digit numbers using symbols. Arrange 5digit numbers in ascending and descending order. | Constructive and Inquiry based | Worksheet | Approaching Meeting, Exceeding | Place value chart | Video |
| JULY | Roman Number | Write in Hindu Arabic to roman and roman to Hindu Arabic | Constructive and Inquiry based | Worksheet | Approaching Meeting, Exceeding | Use matchstick write roman number |  |
|  | Fraction Number | Understand Equivalent fraction, lowest form. Comparison, Addition and subtraction | Constructive and Inquiry based | Worksheet | Accuracy |  |  |
|  | REVISION FOR PRE-MID TERM EXAM |  |  |  |  |  |  |

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| AUGUST | Pre-Mid Term Exam |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Addition | Adding by the column method with carrying over. | Story <br> Drill and practice | Class test | Approaching Meeting, Exceeding | Addition wheel | Animated video |
|  | Subtraction | Understanding subtraction of 5-digit and 6-digits number | Constructive, Integrative and Inquiry based | Lab activity | Analysis, accuracy, presentation Creativity Performance, |  | Video |
| SEPTEMBER | Multiplication | Multiplying 3-digit by 2digit numbers. | Constructive, Integrative and Inquiry based | Worksheet | Approach Meeting Exceeding |  | Animated Video |
|  | Revision FOR MID TERM EXAMS |  |  |  |  |  |  |
| OCTOBER | MID TERM EXAM |  |  |  |  |  |  |
|  | Dividing by 3-digit numbers by 1-digit | Divide 3-digit by 1-digit numbers. | Constructive, Integrative and Inquiry based | Quiz | Approach Meeting Exceeding | Puzzle | Animated video |
| NOVEMBER | Multiple and factors |  |  |  |  | Jumping puppet |  |
|  | Geometrical shapes. | Understand 2-D and 3-D shapes | Constructive, Integrative and Inquiry based | Work sheet | Analysis <br> Approach <br> Meeting <br> Exceeding | Find the area of shapes drawn on squared paper. | PPT |
|  | Revision FOR post MID TERM EXAMS |  |  |  |  |  |  |
|  | Post Mid Term Exam |  |  |  |  |  |  |
| DECEMBER | Measurement of length, Mass and capacity. | Convert bigger to smaller and smaller to bigger unit. | Constructive, Integrative and Inquiry based | Work sheet | Analysis Approach Meeting |  | Video |

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| JANUARY | Time | Reading and writing time through clock. Conversion of Time | Constructive, Integrative and Inquiry based | Lab activity | Research <br> Analysis Presentation | Draw Clock |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Data Handling | Understanding data using pictograph and bar graph | Constructive, Integrative and Inquiry based |  |  |  | Module or video related |
| FEBRUARY | Pattern | Understanding the pattern, Interpret relationship | Inquiry based | Lab Activity Story |  |  |  |
| MARCH | Annual Examination |  |  |  |  |  |  |

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CLASS: V

| MONTH | CHAPTER | EXPECTED LEARNING OUTCOMES | PEDAGOGICAL APPROACH <br> (TEACHING METHODS/ STRATEGIES) | ASSESSMEN T TOOLS | RUBRICS | ART <br> INTEGRATION | ICT <br> INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Large Numbers | Represent 7digit numbers in the Indian and International system. Write in words, figures, Predecessor and successor of 7-and 8-digit numbers | Constructive and Inquiry based | Home assignment | Performance, Accuracy | Lab activity Use different colures to circle the numbers in the number grid |  |
| JULY | Roman Numerals | Write Roman to Hindu Arabic and Hindu Arabic to Roman Numerals. | Constructive and Inquiry based | Worksheet | Accuracy | Housie game based on roman number |  |
|  | Operations on large numbers | Understanding operations on large numbers. | Constructive, Integrative and Inquiry based | Class test Mental math's Lab activity | Performance, Accuracy <br> Analysis, accuracy |  | Animated video |
|  | REVISION FOR PRE-MID TERM EXAM |  |  |  |  |  |  |
|  |  | - | PRE-MID TERM EX | AM |  |  |  |
| AUGUST | Fractions | Addition and Subtraction of fraction with unlike denominators. Multiplication of fractional numbers. | Constructive, Integrative and Inquiry based | Worksheet | Approach Meeting Exceeding | Make a bird using paper | PPT |
| SEPTEMBER | Decimals | Represent the tenth and hundredth of a decimal number. Identify the place of the digits in a decimal number up to the thousandths and expanded | Constructive, Integrative and Inquiry based |  | Approach Meeting Exceeding | Decimal board | Animated video |

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CLASS - VI

| MONTH | CHAPTER | EXPECTED <br> LEARNING OUTCOMES | PEDAGOGICAL <br> APPROACH <br> (TEACHING METHODS/ STRATEGIES) | ASSESSMENT TOOLS | RUBRICS | ART <br> INTEGRATION | ICT <br> INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Knowing our numbers | National and International number name, comparing numbers. | Constructive, Integrative and Inquiry based | Home Assignment, class test | Performance, creativity and accuracy | Place value chart of National and International number system |  |
|  | Whole numbers | Introduction of whole numbers, Predecessor and successor, addition and subtraction on number line. | Constructive, Integrative Inquiry based, story based on Bihar | Class test | Performance, creativity and accuracy | Number Game |  |
| JULY | Playing with numbers | Factors and multiples, prime and composite numbers, tests for divisibility of numbers, HCF and LCM. | Constructive, Integrative Collaborative Reflective | Worksheet, Class test | Relevance to theme, coordination, presentation | Role play ( let's speak) Bulletin board of divisibility rules |  |
|  | Revision for PRE MID TERM EXAM |  | Drill and Practice |  | Approach, sequence, concentration |  |  |
|  | PRE MID TERM EXAM |  |  |  |  |  |  |
| AUGUST | Integers | Introduction of integers, Representation of integers on number line, addition and subtraction of integers . | Constructive, Integrative Inquiry based | Lab Activity Worksheet | Performance accuracy |  | Animated video on integers, Phet simulation |
|  | Fractions | Fraction on number line, types of fractions, comparing fractions, | Constructive, Integrative and Inquiry based | Lab activities | Creativity, Performance, Accuracy | Paper art, fraction disc ( let's speak) | Phet simulation |

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CLASS: VII

| MONTH | CHAPTER | EXPECTED <br> LEARNING OUTCOMES | PEDAGOGICAL APPROACH <br> (TEACHING METHODS/ STRATEGIES ) | ASSESSMENT TOOLS | RUBRICS | ART <br> INTEGRATION | ICT <br> INTEGRATION |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Integers | Introduction of integers and operations on integers with the properties | Constructive, Integrative Inquiry based | Home assignment | Performance <br> Accuracy <br> Approach |  | Online module, Phet simulation |
| JULY | Fractions and decimals | Understanding fractions along with their operations | Constructive, Integrative Inquiry based | Class test | Creativity, Performance, accuracy, presentation | Fraction story (Role play) | Animated video |
|  | Data handling | Collection and organization of data, range , mean, mode and median and making of bar graphs | Constructive, <br> Integrative Inquiry based | Lab activity | creativity, concentration presentation | Drawing on chart paper Case Study on Nagaland/ Manipur |  |
|  | Revision for MID TERM EXAM |  | Drill and Practice |  |  |  |  |
|  | Pre-Mid Term Exam |  |  |  |  |  |  |
| AUGUST | Line and angles | Understanding the concept of geometry, Differentiation between line segment, ray and line, types of lines and angles | Constructive, Integrative Inquiry based | Home assignment | Research <br> Analysis, accuracy, presentation | Using sticks explain different angles | Animated video, geogebra |
| SEPTEMBER | Triangles and its properties | Understanding the concept of triangles, Types of triangles and its properties Altitude and median Pythagoras theorem | Constructive, Integrative Inquiry based | Lab activity | Creativity Performance, accuracy, presentation | Paper cutting \& folding | Animated video |

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DEPARTMENT OF MATHEMATICS

|  | Simple equation | Making and solving of equations <br> Applications of simple equations to practical situations | Constructive, Integrative Inquiry based | Home assignment | Concentration, performance, Accuracy |  | Equation story |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Revision for MID TERM EXAM |  | Drill and Practice |  |  |  |  |
|  | MID TERM EXAMS |  |  |  |  |  |  |
| OCTOBER | Algebraic expressions | Terms (like and unlike), coefficient and constants Types of expressions, Addition and subtraction of algebraic expressions | Constructive, Integrative Inquiry based | Work sheet | Concept map | Performance, creativity | Animated video |
| NOVEMBER | Comparing quantities | Percentage and its applications Profit and loss, Simple interest | Constructive, Integrative Inquiry based, research based | Home assignment | Research <br> Analysis, accuracy, presentation |  | Module on <br> Nagaland/ <br> Manipur |
|  | Area and perimeter | To calculate area and perimeter of different types of geometrical figures | Constructive, Integrative Inquiry based | Home assignment/lab activity/field visit | Research <br> Analysis Presentation |  | Online module |
| DECEMBER | Revision for POST MID TERM EXAM |  | Drill and Practice |  |  |  |  |
|  | POST MID TERM EXAMS |  |  |  |  |  |  |
|  | Exponents and powers | Understanding of Exponents and powers Decimal number system Standard form | Constructive Integrative Inquiry based | Lab activity (cards game), Class test | Creativity Performance, accuracy, presentation | (cards game) | Online module |

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|  | Symmetry | Line symmetry and rotational symmetry Centre of rotation Angle of rotation Order of rotational symmetry | Constructive Integrative Inquiry based | Hand on activities, home assignment | Creativity <br> Research <br> Analysis <br> Presentation |  | Animated video |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| JANUARY 24 | Rational numbers | Introduction of rational numbers, operations and Comparison between them and their representation on number line | Constructive, Integrative Inquiry based, | Class test | Relevance to theme, coordination, presentation | Role Play | Online module |
|  | Visualizing solid shapes | Plane figures and solid figures <br> Vertices, edges and faces | Constructive Integrative Inquiry based | Hand on activities, home assignment | Research <br> Analysis Presentation | Making 2 D and 3D shapes by straw connecting |  |
|  | Revision for ANNUAL EXAMS |  | Drill and practice | Summative exam |  | activity |  |
| MARCH 24 | ANNUAL EXAMS |  |  |  |  |  |  |

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## HAPPY DAYS SCHOOL, SHIVPURI (M.P.) <br> DEPARTMENT OF MATHEMATICS

CLASS: VIII

| MONTH | CHAPTER | EXPECTED <br> LEARNING OUTCOMES | PEDAGOGICAL APPROACH (TEACHINGMETHODS/ STRATEGIES ) | ASSESSMENT TOOLS | RUBRICS | $\begin{gathered} \text { ART } \\ \text { INTEGRATION } \end{gathered}$ | $\begin{gathered} \text { ICT } \\ \text { INTEGRAT } \\ \text { ION } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Rational numbers | Differentiation between numbers, calculation skill, differentiation between the properties | Constructive Integrative | Concept map Class test, homework | Relevance, Sequencing, Presentation | Sketching concept map | Online module |
|  | Linear equation in one variable | Forming of equations and solving of equations | Constructive, integrative, real life simulations | homework | Creativity Performance Accuracy |  | Equation Story |
| JULY | Understanding quadrilaterals | Types of quadrilaterals, properties of parallelogram | Constructive Integrative | Lab activity, concept map | Performance Accuracy | Cut and paste activity |  |
|  | Data handling | Understanding and drawing of pie chart, understanding the concept of probability | Constructive Integrative Inquiry based | Homework on Class test | Relevance <br> Sequencing <br> Creativity <br> Presentation | Case Study on Bihar population (Pie Chart) |  |
|  | Revision for PRE- MID TERM EXAMS |  |  | Worksheet, Drill and practice |  |  |  |
|  | PRE - MID TERM EXAMS |  |  |  |  |  |  |
| AUGUST | Squares and square roots | Properties of squares and square numbers, Pythagoras theorem | Constructive Integrative Inquiry based Real life simulation | Square maze game/ Lab activity Home assignment | Timing Performance Accuracy | Make a square number tower |  |
| SEPTEMBER | Cubes and cube roots | Properties of cubes and cube roots | Constructive, Integrative Inquiry based Real life simulation |  | Accuracy Performance creativity |  | PPT |

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|  | Algebraic expressions | Variables constants and operations on algebraic expressions | Constructive Integrative Inquiry based Reflective | Class test | Accuracy Creativity |  | Online module |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Revision for MID TERM EXAMS |  |  | Worksheet, Drill and practice |  |  |  |
| OCTOBER | Mid- Term Exam |  |  |  |  |  |  |
|  | Factorization | Factorization of algebraic expressions, division of algebraic expressions | Constructive Integrative Inquiry based | Class test | Calculation accuracy | Activity |  |
| NOVEMBER | Mensuration | Surface areas and volume of different kinds of 3D-figures | Constructive, Integrative, Inquiry based, Real life simulation | Lab activity, Class test | Creativity Performance | Cut and paste activity |  |
|  | Exponents and powers | Identifying the base and power, expanded form, scientific notation of exponents | Constructive Integrative Inquiry based | Home assignment, Class test | Accuracy Creativity Performance |  | PPT |
|  | Revision for POST MID TERM EXAMS |  |  | Worksheet, Drill and practice |  |  |  |
| DECEMBER |  |  | POST MID TERM EXA |  |  |  |  |
|  | Direct and inverse proportions | Dependency of one quantity to another quantity | Constructive Integrative Inquiry based | Home assignment Sclass test | Accuracy Presentation | Skit on real life situations | Video on proportio ns |
| JANUARY 24 | Comparing quantities | Understanding the concept of Ratios and percentage profit and loss, simple and compound interest | Constructive, Integrative, Inquiry based | Home assignment | Calculation accuracy | Case Study | Module on Nagaland/ Manipur |

## HAPPY DAYS SCHOOL, SHIVPURI (M.P.)

DEPARTMENT OF MATHEMATICS

|  | Introduction to graphs | Making of graphs, plotting of points on the graph, finding the coordinates of the points on the graphs | Constructive Integrative Inquiry based | Home assignment | Trace and identify the figure and explain |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| FEBRUARY 24 | Revision for ANNUAL EXAMS |  | Drill and practice |  | Activity |  |
| MARCH 24 | ANNUAL EXAMS |  |  |  |  |  |



## HAPPY DAYS SCHOOL, SHIVPURI (M.P.) <br> DEPARTMENT OF MATHEMATICS

CLASS: IX

| MONTH | CHAPTER | EXPECTED LEARNING OUTCOMES | $\begin{aligned} & \hline \text { PEDAGOGICAL } \\ & \text { APPROACH } \\ & \text { (TEACHING } \\ & \text { METHODS/ } \\ & \text { STRATEGIES ) } \\ & \hline \end{aligned}$ | $\begin{aligned} & \text { ASSESSMEN } \\ & \text { T TOOLS } \end{aligned}$ | RUBRICS | $\begin{gathered} \text { ART } \\ \text { INTEGRATION } \end{gathered}$ | $\begin{gathered} \text { ICT } \\ \text { INTEGRATION } \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| APRIL | Number systems | Basics of number <br> systems, irrational <br> numbers and their | Constructive Integrative Constructive Integrative | Class Test <br> Extra <br> Question | Approach, Performance Accuracy | Draw a square root spiral | Video on Square Root Spiral |
| JULY | Polynomial | Meaning, degree, coefficients, types of polynomial value and zeroes of a polynomial, factor theorem, factorization of polynomial, algebraic identities | Constructive Integrative Reflective | Class Test <br> Extra <br> Question | Relevant accuracy | Factorization of quadratic polynomial on sheet <br> Verification of algebraic identities | Animated Video |
|  | Coordinate geometry | Cartesian system, coordinate axes, plotting of points in the Cartesian plane | Constructive <br> Integrative Reflective | Class Test <br> Extra <br> Question | Relevance <br> Creativity <br> Presentation | Draw a graph of different points | Video on drawing graph |
|  | Introduction to Euclid's geometry | History - geometry in India and Euclid's geometry, Postulate and axioms | Constructive Integrative | Class Test <br> Extra <br> Question | Approach, Performance Accuracy | $\square$ | Animated video on Euclid's geometry |

## HAPPY DAYS SCHOOL, SHIVPURI (M.P.) DEPARTMENT OF MATHEMATICS

## PRE-MID TERM EXAM

| AUGUST | PRE-MID TERM EXAM |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Lines and angles | Basic Terms, intersecting and nonintersecting lines, pair of angles, lines parallel to the same line | Inquiry based Integrative Constructive | Lab activity Class Test Extra Question | Performance Accuracy | Demonstrate through role play <br> The lines and the angles | Animated Video |
|  | Triangles | Basics terms, congruency of triangles and its criteria, some properties of triangles | Inquiry based Integrative Constructive | Class Test <br> Extra <br> Question | Draw set of congruent triangles |  | Video on congruency of triangle |
| SEPTEMBER | Linear equations in two variables | Basic terms, linear equations in one variable, linear equations in two variables and their solution | Inquiry based Integrative Constructive | Problem based learning and Class test | Accuracy Concept |  | Animated Video |
|  | Quadrilaterals | Basic terms, properties of a parallelogram, the mid-point theorem | Inquiry based Integrative Constructive | Lab activity Class Test Extra Question | Relevant concept Performance |  | Animated video on midpoint theorem |
| OCTOBER |  | Angle subended by | MID T | AM |  |  |  |
|  | Circles | Angle subtended by a chord at a point, perpendicular from the centre to a chord, equal chords and their distance from the centre, angle subtended by an arc of a circle, cyclic quadrilateral | Inquiry based Integrative | Lab activity Worksheet | Analysis Performance Involvement | By folding paper, prove angle of semicircle is right angle | Power point presentation on circles |

## HAPPY DAYS SCHOOL, SHIVPURI (M.P.)

DEPARTMENT OF MATHEMATICS

|  | Heron's formula | Area of triangle by <br> Heron's formula | Integrative <br> Inquiry based | Class Test <br> Extra <br> Question | Relevant <br> content <br> Performance | Power point <br> presentation <br> on the <br> biography of <br> Heron |  |
| :--- | :---: | :--- | :--- | :--- | :--- | :--- | :--- |
| NOVEMBER | Surface areas and <br> volumes | Surface area and volume <br> of a right circular cone, <br> sphere and hemisphere. | Inquiry based <br> Integrative <br> Constructive | Class Test <br> Extra <br> Question | Concept <br> presentation | Learning by <br> doing | Animated <br> Video |
|  | Statistics | Graphical representation <br> of data through bar <br> graph, histogram and <br> frequency polygon | Reflective <br> Integrative <br> Inquiry based | Class Test <br> Extra <br> Question | Concept <br> Neatness <br> presentation | Represent data <br> on the graph <br> paper | Animated <br> Video |
|  | REVISION FOR POST MID TERM EXAMINATION |  |  |  |  |  |  |

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## HAPPY DAYS SCHOOL, SHIVPURI (M.P.) <br> DEPARTMENT OF MATHEMATICS

CLASS: X


## HAPPY DAYS SCHOOL, SHIVPURI (M.P.)

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## HAPPY DAYS SCHOOL, SHIVPURI (M.P.)

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| DECEMBER | FIRST PRE-BOARD EXAM |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Surface Area \& Volume | Surface areas and volumes of combinations of two solids cuboids, cubes, cylinder, cone, sphere and hemisphere | Constructive, Integrated, Inquiry based | Assignment | Approach Performance Accuracy | Model making |  |
| JANUARY | IIND PRE BOARD EXAM, DRILL PRACTICE THROUGH WORKSHEET AND EXTRA QUESTION |  |  |  |  |  |  |
| FEBRUARY | Revision |  | Drill \&Practice | Sample Papers |  | Activity | Video |
| MARCH 24 | BOARD EXAMINATION |  |  |  |  |  |  |

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