BAL BHARATI PUBLIC SCHOOL NOIDA
SYLLABUS FOR THE SESSION 2020-2021
CLASS VII: MATHEMATICS

Month	UNIT/ CHAPTER	SUB TOPICS	LEARNING OUTCOMES	INNOVATIVE PEDAGOGIES/ART INTEGRATION/INTER DISCIPLINARY APPROACH	LAB MANUAL ACTIVITY
April	Integers Fractions and Decimals	• Properties of integers under addition, subtraction, multiplication and division. • Word Problems • Addition, subtraction, multiplication and division of fractions. • Basic operations on Decimals. • Word problems.	**Students would be able to**-Perform various operations on integers. Comprehend and analyze the word problems involving integers. Visualize operations between fractions. Generalize shortcuts to perform various operations in fractions. Comprehend and analyze the word problems involving fractions.	**PICTURE METHOD OF SOLVING FRACTION PROBLEMS:** Drawing a picture from the word problem to make it easy to comprehend and solve. **AUDIO-VISUAL AIDS:** You tube links Diksha Portal Links	**LAB ACTIVITY**: Multiplication of Decimal numbers using graph sheets.
May	Data Handling	• Mean, median and mode of ungrouped data. • Double bar graph • Probability.	**Students would be able to**-Organizing the data. Judging the best way of finding the central tendency. Finding central tendency of data. Draw double bar graph and interpret them. Calculating probability of an event in various situations	**AUDIO-VISUAL AIDS:** You tube links Diksha Portal Links	**LAB ACTIVITY:** Make a group of 6 students. Each Students will roll the dice 100 times and will make a tally marking table of outcomes. Compile the result of the group at the end. Now check if it fulfills the criteria of equal likely events.
July	Simple equations Exe 4.4 exempted	Solving a simple equation	**Students would be able to** Transpose values from one side of the equation to the	**BALANCING METHOD:** Make the students practice the balancing method of solving simple	**LAB ACTIVITY:** Solution of a given linear equation by tiling method. **(Art integrated activity)**

	Exponents and Powers	• Laws of Exponents • Standard form	other side of the equation with ease. Solve simple equation in one variable. **Students would be able to** Convert a number in exponential form. State various laws of exponents. Solve mathematical problems involving powers.	equations before introducing transposition method. **AUDIO-VISUAL AIDS:** You tube links Diksha Portal Links **DEDUCTIVE METHOD:** Through various examples generalize the laws of exponents.	
August	The Triangle and its Properties Exe 6.4 exempted	• Angle sum property • Exterior angle property • Pythagoras theorem	**Students would be able to** Illustrate angle sum property and exterior angle property of triangle. State Pythagoras theorem Apply Pythagoras theorem in various problems.	**AUDIO-VISUAL AIDS:** You tube links Diksha Portal Links	**LAB ACTIVITY:** 1.To verify that sum of all the interior angles of a triangle is 180° by paper cutting and pasting. 2.To verify the exterior angle property of a triangle.
September	Visualizing solid shapes. (Activity based chapter exempted from exams) Perimeter and Area Exe 11.1 exempted	Isometric Sketches and Oblique sketches Perimeter and area of • Triangle and parallelograms. • Area of circles • applications (Area of cross roads by paper cutting method)	**Students would be able to –** Understand the need of Isometric Sketches and Oblique sketches and will be able draw these sketches for given objects. **Students would be able to-** Calculate the area and perimeter of different diagrams using formulas.	Link of video on Isometric Sketches and Oblique sketches: https://www.youtube.com/watch?v=8Dp9Gdj2_Fs **AUDIO-VISUAL AIDS:** You tube links Diksha Portal Links **DEDUCTIVE METHOD:** Finding the ratio of circumference and diameter of different circles and then conclude that it is always the same. Finding area of a circle by clay activity.	**LAB ACTIVITY:** Verify Pythagoras theorem by paper cutting and pasting. **LAB ACTIVITY: (Sports Integrated)** The shot put is one of the track and field games. Search about the circles and shots used in the game. Are these same for men & women? **Activity:** Find the ratios of diameters and areas of the circles used in both the categories.

					Find the ratios of shot's weight used in both the categories.
October	**Revision for Half yearly Examination**				
November	Symmetry (Activity Oriented exempted from exams) Practical Geometry Exe 10.1 exempted Congruence of Triangles Exe 7.2 (Q. 5, 6, 7, 8, 9 & 10 and similar language-oriented questions asked in 'Try These' are exempted)	• Lines of symmetry • Rotational symmetry • Construction of triangles • Concept of congruence • Congruence of triangles.	**Students would be able to-** Find the line of symmetry or the order of rotational symmetry in any real-life object. **Students would be able to-** Constructs simple triangles when three out of six elements are given (like three sides, two sides and included angle, a side and two angles etc. Exempted exe 10.1 **Students would be able to-** Identify congruency in two objects. Establishes congruence criterion for triangles. Appreciates that only three elements of two triangles are sufficient to find their congruence. Judge if the given two triangles are congruent.	**HANDS ON ACTIVITY:** Identification of lines of Symmetry and order of symmetry in square, rectangle, parallelogram, isosceles triangle, and equilateral triangle. **AUDIO-VISUAL AIDS:** You tube links Diksha Portal Links **CONCLUSION:** Criteria of congruence and specific conditions of triangle constructions are actually same because these all lead to unique triangles.	**PROJECT WORK**: (Integrated with Sustainable Development and Computer Science) Make a digital presentation on how bamboo has become popular material choice in architecture and in designing projects. Attach few pictures of bamboo architecture and find the beauty of Symmetry in those pictures. (To be marked in internal assessment.) 
December	Comparing Quantities Exe 8.1 exempted	• Application of percentage. • Profit and Loss • Ratio to %	**Students would be able to-** Find ratio between two quantities.	**RELATING THE CONCEPT TO THE REAL LIFE:**	

	Lines and Angles	• Simple Interest. • Pairs of angles • Parallel lines and transversal.	Solve problems using unitary method. Apply the idea of percentage, profit loss and simple interest in her/his daily life. Calculate the profit and loss percentages. Calculate simple interest and total amount. **Students would be able to** Recall the name of the relation in Two given angles. Find the value of required angle. Justify if the given lines are parallel.	Discussing the shopping experiences of students during festive sale. **AUDIO-VISUAL AIDS:** You tube links Diksha Portal Links **QUIZ ON THE CONCEPT:** Before starting the exercise take as many quizzes and oral tests as possible to make sure that the students have adapted the new terminology.	
January	Algebraic Expressions Exe 12.4 (Patterns) exempted	• Terms related to Algebraic expressions. • Operations on algebraic expressions.	**Students would be able to**-Add and subtract to given algebraic expressions. Find the value of algebraic expression if value of variable is given. Producing formulas and rules using algebraic expressions.	**AUDIO-VISUAL AIDS:** You tube links Diksha Portal Links	**LAB ACTIVITY:** Addition and subtraction of algebraic expressions by tiling method. **(Art integrated activity)**
February		Revision for Final Examination			