

**ARMY PUBLIC SCHOOL GOPALPUR**  
**SPLIT-UP SYLLABUS**  
**SESSION 2020-21**

**NCERT TEXT BOOK: Text book for Class VII SUB: MATHEMATICS**

S.NO.	Name of the Examination	CHAPTER	TENTATIVE NO.OF PERIODS REQUIRED	MONTH	Tentative No of working days available
1.	PART – I PMTT	Integers	10	April	
2.		Fractions and Decimals	10		
		Fractions and Decimals Continues	7	May/June	
3.		Data Handling	10	July	
4.		Simple Equations	10		

5.	PART – II Half Yearly Examination (Cumulative)	Lines and Angles	07	August	
6.		The Triangle and its Properties	10		
7.		Congruence of Triangles	08	September	
8.		Comparing quantities	10		

9.	PART – III PMTT	Rational Numbers	08	October	
10.		Practical Geometry	08	November	

11		Perimeter and Area	14		
12		Algebraic Expressions	12	December	

13	PART – IV Session Ending Examination (Cumulative)	Exponents and Powers	12	January	22
14.		Symmetry	08		
15.		Visualizing solid shapes	10	February	23
		<b><i>Session Ending Examination-2018-19</i></b>			

# ARMY PUBLIC SCHOOL GOPALPUR

## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII SUBJECT: MATHEMATICS**

**MONTH : APRIL**

**NO. OF PERIODS: 10**

**TOPIC -INTEGERS**

**NO.OF DAYS :10**

<b>SUB- TOPICS</b>	<b>METHOD OLOGY</b>	<b>TEACHING LEARNING MATERIALS/AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Meaning of natural number and whole number.</li><li>• Integers and number line .</li><li>• Addition of integers.</li><li>• Subtractions of integers.</li><li>• Multiplication and division of integers.</li><li>• Properties of integers.</li></ul>	<p>Discussion method</p> <p>Problem solving method.</p>	<ul style="list-style-type: none"><li>• Charts of number system.</li><li>• Addition, subtractions on number line .</li></ul>	<ul style="list-style-type: none"><li>• Parents play different types of number game .</li><li>• Parents are encourage to make some cube with number.</li></ul>	<ul style="list-style-type: none"><li>• Able to represents integers on number line.</li><li>• Able to do addition and subtractions of integers.</li><li>• Understand the properties of integers under addition</li><li>• Understand the properties of integers under multiplications.</li><li>• Able to do multiplication and division of integers.</li></ul>

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## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : JUNE**

**NO. OF DAYS:15**

**NO. OF PERIODS:15**

**TOPIC :Ln-02 :FRACTIONS AND DECIMALS**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS/AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Proper ,improper and mixed fractions.</li><li>• Multiplications of fractions.</li><li>• Division of the fractions.</li><li>• Place value of the decimals.</li><li>• Product and division of decimal numbers.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method</li><li>• Problem solving method</li></ul>	<ul style="list-style-type: none"><li>• Charts of number system.</li><li>• Addition, subtraction s on number line</li><li>• Abacus</li></ul>	<ul style="list-style-type: none"><li>• parents</li><li>• Playing games on addition and subtractions</li></ul>	<ul style="list-style-type: none"><li>• Able to differentiate the proper, improper and mixed fraction<ul style="list-style-type: none"><li>• Able to addition,subtraction,multiplication, division of two fractions.</li></ul></li><li>• Able to find out the place value of decimal numbers.</li><li>• Able to do the division and multiplications of fractions.</li></ul>

# ARMY PUBLIC SCHOOL GOPALPUR

## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : JULY**

**NO. OF DAYS:10**

**NO. OF PERIODS:10**

**TOPIC :Ln-03 : DATA HANDLING**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS /AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Interpretation of data.</li><li>• To draw and use of bar graph , double bar graph .</li><li>• To find out mean ,median , and mode of unorganised data.</li><li>• Meaning of probability.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Problem solving method.</li></ul>	<ul style="list-style-type: none"><li>• Chart paper.</li><li>• Different types of data from newspaper.</li></ul>	<ul style="list-style-type: none"><li>• Parents are help to collect various data from daily life and also help to draw bar graph and double bar graph.</li></ul>	<ul style="list-style-type: none"><li>• Interpretation of data.</li><li>• To draw and use of bar graph and double bar graph.</li><li>• To find out mean ,median ,and mode of given data.</li><li>• Simple problems based on probability.</li></ul>

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## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : JULY**

**NO. OF DAYS:10**

**NO. OF PERIODS:10**

**TOPIC :Ln-04-SIMPLE EQUATION**

<b>SUB-TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS /AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Meaning of constant and variable.</li><li>• Setting up of an equation.</li><li>• Solving simple equations.</li><li>• Word problems based on simple equations.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Questions answer method</li></ul>	<ul style="list-style-type: none"><li>• Matchsticks.</li></ul>	<ul style="list-style-type: none"><li>• Parents will discuss different types of word problem with children .</li></ul>	<ul style="list-style-type: none"><li>• To set a simple equation.</li><li>• Understand how to solve the simple equations.</li><li>• Understand how to solve word problems.</li><li>• Formation of simple equation and solution of it.</li></ul>

# ARMY PUBLIC SCHOOL GOPALPUR

## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : AUGUST**

**NO. OF DAYS:07**

**NO. OF PERIODS-07**

**TOPIC :LN-05-LINES AND ANGLES**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS /AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Complementary angles and supplementary angles.</li><li>• Adjacent angles and linear pairs.</li><li>• Vertically opposite angles.</li><li>• Intersecting lines and transversal.</li><li>• Relations between different types of angles.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Problem solving method.</li></ul>	<ul style="list-style-type: none"><li>• Angles made by colour paper</li></ul>	<ul style="list-style-type: none"><li>• Parents show different types of angles and find out their measurements</li></ul>	<ul style="list-style-type: none"><li>• Understanding and use of pairs of angles ,supplementary ,complementary ,adjacent angles ,linear pairs ,vertically opposite angles.</li><li>• Understanding and use of pairs of lines :intersecting lines ,transversal and angles made up transversal in parallel lines.</li><li>• Understand properties of corresponding angles.</li></ul>

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## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : AUGUST**

**NO. OF DAYS-10**

**NO. OF PERIODS-10**

**TOPIC :LN-06-THE TRIANGLE AND ITS PROPERTIES**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS/AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Classification of triangles.</li><li>• Median and altitude of a triangles.</li><li>• Angle sum property of triangles.</li><li>• Exterior angle property.</li><li>• Property of lengths of sides of triangles.</li><li>• Pythagoras theorem.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Problem solving method.</li></ul>	<ul style="list-style-type: none"><li>• .different types of triangles( paper cutting)</li></ul>	<ul style="list-style-type: none"><li>• Parents make different types of triangle using paper and show their property.</li></ul>	<ul style="list-style-type: none"><li>• Understanding types of triangles according to their sides.</li><li>• Understand different types of triangles according to their angles.</li><li>• Understands the meaning of altitude and median of triangles.</li><li>• Understands and use of angle sum property.</li><li>• Use of Pythagoras theorem.</li></ul>



# ARMY PUBLIC SCHOOL GOPALPUR

## SPLIT UP SYLLABS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : SEPTEMBER**

**NO. OF DAYS-08**

**NO. OF PERIODS-08**

**TOPIC :LN-07-CONGRUENCE OF TRANGLES**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS/ AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Congruence of the triangle.</li><li>• Criteria for congruence of triangles(SSS ,ASA,SAS,RHS ).</li><li>• Congruence of the plane figure, angles and line segments.</li><li>• Difference between the similarity and congruence of the triangles.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Problem solving method.</li></ul>	<ul style="list-style-type: none"><li>• Different types of triangles according to their criteria.</li></ul>	<ul style="list-style-type: none"><li>• Parents can make different types of triangles according to congruence criteria.</li></ul>	<ul style="list-style-type: none"><li>• Understanding congruence of plane figures ,line segments and angles.</li><li>• Understanding and use of congruence of triangles.</li><li>• Understanding and use of criteria for congruence of triangles.</li><li>• Able to use SSS ,SAS ,ASA, RHS congruence criteria.</li></ul>

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## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : SEPTEMBER**

**NO. OF DAYS-10**

**NO.OF PERIODS-10**

**TOPIC :LN-08-COMPAIRING QUANTITIES**

<b>SUB- TOPICS</b>	<b>METHODOLOG Y</b>	<b>TEACHING LEARNING MATERIALS/ AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Ratio and equivalent ratio.</li><li>• Percentage increase or percentage decrease.</li><li>• Conversion of fraction to percentage and vice-versa.</li><li>• Ratio to percentage.</li><li>• Simple equations.</li></ul>	<ul style="list-style-type: none"><li>• Inductive methods</li><li>• Question answer method.</li></ul>	<ul style="list-style-type: none"><li>• Different types of ratio on paper.</li></ul>	<ul style="list-style-type: none"><li>• Parents use ratio and proportion concept on daily life situations.</li></ul>	<ul style="list-style-type: none"><li>• Understanding and use of ratio ,equivalent ratios.</li><li>• Understanding and use of percentage.</li><li>• To find increase or decrease percentage.</li><li>• To convert fraction to percentage vice-versa.</li><li>• To convert decimals to percentages and vice – versa.</li><li>• Practical problems on percentage.</li></ul>

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## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH :OCTOBER**

**NO. OF DAYS-08**

**NO.OF PERIODS-08**

**TOPIC :LN-09- RATIONAL NUMBER**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS/AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Meaning of rational number.</li><li>• Positive and negative rational number.</li><li>• Representation of rational number on number line.</li><li>• Rational number in standard form.</li><li>• Comparison of rational number.</li><li>• Operation on rational number.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Question answer method.</li></ul>	<ul style="list-style-type: none"><li>• Different types of magic cubes using rational number.</li></ul>	<ul style="list-style-type: none"><li>• Parents will help the children to represent rational number on number line.</li></ul>	<ul style="list-style-type: none"><li>• Understanding rational number.</li><li>• Understanding positive and negative rational number.</li><li>• To represent the rational number on number line.</li><li>• To convert rational number on standard form.</li><li>• To compare two rational number.</li><li>• Understanding and use of different operations on rational number.</li></ul>

# ARMY PUBLIC SCHOOL GOPALPUR

## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : NOVEMBER**

**NO. OF DAYS-06**

**NO.OF PERIODS-06**

**TOPIC :LN-10-PRACTICAL GEOMETRY**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS/ AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOMES</b>
<ul style="list-style-type: none"><li>• Introduction of practical geometry.</li><li>• Construction of a line parallel to a given line through a point not on a number line.</li><li>• Constructing a triangle when the lengths of its three sides are known.</li><li>• Construction of different types of triangle.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Question answer method.</li></ul>	<ul style="list-style-type: none"><li>• Compass box .</li></ul>	<ul style="list-style-type: none"><li>• Parents will help the child to construct different types of triangle.</li></ul>	<ul style="list-style-type: none"><li>• To construct triangles based on SSS ,SAS ,ASA, and RHS criteria for congruence of triangles.</li><li>• Constructing a right angled triangle when the length of a side and its hypotenuse are given.</li><li>• Construction of a line parallel to a given line through a point not on the line.</li><li>• Construct different types of triangles.</li></ul>

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## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : NOVEMBER**

**NO. OF DAYS-14**

**TOPIC :LN-11-PERIMETER AND AREA**

**NO.OF DAYS-14**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS/ AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOMES</b>
<ul style="list-style-type: none"><li>• Meaning of perimeter and area.</li><li>• Perimeter and area of the square and rectangle.</li><li>• Area of the triangles.</li><li>• Area and the circumference of the circle.</li><li>• Area and perimeters of various kinds of the shape related to rectangles and square.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Question answer method.</li></ul>	<ul style="list-style-type: none"><li>• Different types figures using colour papers.</li></ul>	<ul style="list-style-type: none"><li>• Parents will help to draw different types of figures using colour paper.</li></ul>	<ul style="list-style-type: none"><li>• Understanding and use of area and perimeter of a square and rectangle.</li><li>• Understanding and use of area of triangle.</li><li>• Understanding and use of the area of parallelogram.</li><li>• Understanding and use of circumference of circle.</li><li>• Understanding and use of conversion of units.</li></ul>

# **ARMY PUBLIC SCHOOL GOPALPUR**

## **SPLIT UP SYLLABUS (2020-21)**

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : DECEMBER**

**NO. OF DAYS-14**

**TOPIC :LN-12; ALGEBRAIC EXPRESSIONS**

**NO.OF PERIODS-14**

<b>SUB- TOPICS</b>	<b>METHODOLOG Y</b>	<b>TEACHING LEARNING MATERIALS/AI DS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOMES</b>
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<ul style="list-style-type: none"> <li>• Formation of algebraic expressions.</li> <li>• Terms of algebraic expressions</li> <li>• Likes and unlike terms.</li> <li>• Monomials ,binomials ,and trinomials.</li> <li>• Addition and subtraction of algebraic expressions.</li> <li>• Using algebraic expressions (formula and the rules ).</li> </ul>	<ul style="list-style-type: none"> <li>• Inductive methods.</li> <li>• Questions and answer methods.</li> </ul>	<ul style="list-style-type: none"> <li>• Matchstick pattern</li> </ul>	<ul style="list-style-type: none"> <li>• Parents will help the children to solve different types of word problems in daily life situations.</li> </ul>	<ul style="list-style-type: none"> <li>• Understanding the term of an algebraic expressions.</li> <li>• Understanding like and unlike terms.</li> <li>• Understanding Monomials , binomials and polynomials.</li> <li>• To add and subtract algebraic expressions</li> <li>• To find the value of expressions.</li> <li>• To use algebraic expressions in formulas and rules.</li> <li>• Able to finding the value of an expressions.</li> <li>• Finding the value of the variable by using some rules.</li> </ul>
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# ARMY PUBLIC SCHOOL GOPALPUR

## SPLIT UP SYLLABUS (2020-21)

**CLASS: VII**

**SUBJECT: MATHEMATICS**

**MONTH : JANUARY**

**NO. OF DAYS:12**

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**NO. OF PERIODS: 12**

**TOPIC :Ln-13 :EXPONENTS AND POWERS**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS/AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOME</b>
<ul style="list-style-type: none"><li>• Meaning of base ,power, and exponents.</li><li>• Express number in the exponential form ,and also find the value of exponential form.</li><li>• All the four laws of exponents.</li><li>• Use of exponents to express the larger numbers.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method.</li><li>• Problem solving method.</li></ul>	<ul style="list-style-type: none"><li>• Different types of real life example related to larger numbers.</li></ul>	<ul style="list-style-type: none"><li>• Parents will help to collect larger number from daily life situations.</li></ul>	<ul style="list-style-type: none"><li>• Understand the concept of exponents and powers.</li><li>• Skills to solve sums related to exponents.</li><li>• Gets knowledge of the large and small number.</li><li>• Capable of expressing large and small numbers in standard form.</li><li>• Capable of applying laws of exponents in the problems.</li></ul>



# ARMY PUBLIC SCHOOL GOPALPUR

## SPLIT UP SYLLABUS (2020-21)

CLASS: VII SUBJECT: MATHEMATICS

MONTH : JANUARY

NO. OF DAYS:08

NO. OF PERIODS:08

TOPIC :LN-14-SYMMETRY

SUB- TOPICS	METHODOLOGY	TEACHING LEARNING MATERIALS/ AIDS	INTERFACE	LEARNING OUTCOMES
<ul style="list-style-type: none"><li>• Making symmetric figures.</li><li>• Figures with two lines of symmetry.</li><li>• Figures with two or more lines of symmetry.</li><li>• Reflection and the symmetry.</li></ul>	<ul style="list-style-type: none"><li>• Inductive method</li><li>• Problem solving method</li></ul>	<ul style="list-style-type: none"><li>• Different types of symmetrical figures.</li></ul>	<ul style="list-style-type: none"><li>• Parents will help the child to collect different types of symmetrical figures from daily life.</li></ul>	<ul style="list-style-type: none"><li>• Finds symmetry in the surrounding and nature.</li><li>• Understanding the meaning and existence of symmetry in our life.</li><li>• Competent to justify the symmetry in shapes .</li><li>• Skilled to draw the symmetrical shapes and lines of symmetry.</li><li>• Capable of completing the figures to show symmetry.</li></ul>

# ARMY PUBLIC SCHOOL GOPALPUR

## SPLIT UP SYLLABUS (2020-21)

**CLASS: VI I**

**SUBJECT: MATHEMATICS**

**MONTH :FEBRUARY**

**NO. OF DAYS:10**

**NO. OF PERIODS:10**

**TOPIC :LN-15-VISUALIZING SOLID SHAPES**

<b>SUB- TOPICS</b>	<b>METHODOLOGY</b>	<b>TEACHING LEARNING MATERIALS/ AIDS</b>	<b>INTERFACE</b>	<b>LEARNING OUTCOMES</b>
<ul style="list-style-type: none"><li>• Views of 3 –D shapes and 2 –D shapes.</li><li>• Mapping space around us.</li><li>• Faces ,edges and vertices.</li><li>• Counting the faces ,edges and vertices of various kinds of shapes.</li><li>• Difference between 2 –D shapes 3-D shapes.</li><li>•</li></ul>	<ul style="list-style-type: none"><li>• Inductive method</li><li>• Problem solving method</li><li>•</li></ul>	<ul style="list-style-type: none"><li>• Different types of figure related to 2-D and 3 – D shapes</li><li>•</li></ul>	<ul style="list-style-type: none"><li>• Parents will help the child to construct different types of figures related to 2 –D and 3-D.</li></ul>	<ul style="list-style-type: none"><li>• Recognizes 2D and 3D shapes.</li><li>• Identifies top ,front and side views of solids .</li><li>• Reads and draws maps.</li><li>• Understand various types of polyhedron.</li><li>• Knows Euler’s formula.</li><li>• Verifies Euler’s formula.</li></ul>

