

# WEEKLY SYLLABI BREAKDOWN: ACADEMIC SESSION 2020-21

## MATHEMATICS: CLASS – VIII

Countdown

Book-8

| Academic Week | Unit/Chapter & Topic   | Personality Grooming Activities  |
|---------------|--|--|
| 1             | <p><b>Ice-Breaking at the Session Commencement</b><br/> <i>[Introduction with classes, Overview of Textbooks/ Syllabi/ Time Table and General Academic Scheduling]</i></p> <p>(Pages 2-5) <b>Recapitulation....An overview is to be given only.</b><br/> <b><u>This part is non examinable.</u></b></p> <p>(Pages 6-12) <b>Unit 1: Operations on Sets</b>, Sets of Numbers, Subsets, Power Set, Union and Intersection of Three Sets, Commutative properties of Sets, Exercise 1 (Associated Topics)</p> | <p><u>Introduction of students with his/her class mates, Teachers and School environment</u><br/> <u>Celebration of Spring Day</u></p>                 |
| 2             | <p>(Pages 13-20) <b>Unit 1 (Contd)</b> : Associative properties of Sets, Distributive property of Union over Intersection, Distributive property of Intersection over Union, De Morgans Laws, Exercise 1, MCQs 1</p>   | <p><u>Two minutes talk by 2-3 students in each class daily revealing their talents and building their confidence</u></p>                               |
| 3             | <p>(Pages 21-25) <b>Unit 2: Squares and Square Roots</b>, Irrational Numbers, Squares, Perfect Squares, Properties of Squares and Perfect Squares, Square Roots of Natural Numbers, Exercise 2 (Associated Topics)</p>   | <p><u>Talk on National Security</u></p>  |
| 4             | <p>(Pages 26-31) <b>Unit 2 (Contd)</b> : Square Roots of Decimals, Square Roots of Vulgar Fractions, Exercise 2, MCQs 2</p>  |  |
| 5             | <p>(Pages 32-42) <b>Unit 3: Cubes and Cube Roots</b>, Cubes, Perfect Cubes, Properties of Cubes, Cube Roots, Cube Roots of Perfect Cubes, Cube Roots of Negative Integers, Cube Roots of Rational Numbers, Exercise 3, MCQs 3</p>  | <p><u>Importance of Labour Day</u></p>   |
| 6             | <p>(Pages 43-47) <b>Unit 4: Number Systems</b>, The Binary System, Convert a Binary Number to the Decimal Number System, Convert a Base 5 Number to the Decimal Number System, Exercise 4 (Associated Topics)</p>  | <p><u>Celebration of Mother's Day</u></p>  |
| 7             | <p>(Pages 48-55) <b>Unit 4 (Contd)</b> : , Convert a Base 8 Number to the Decimal Number System, Convert a Number from the Decimal Number System to the Binary Number System, Convert a Number from the Decimal Number System to the Base 5 Number System, Convert a Number from the Decimal Number System to the Base 8 Number System, Addition, Subtraction, and Multiplication of Base 2, Base 5 and Base 8 Numbers, Exercise 4, MCQs 4</p>   | <p><u>Importance of Ramadan</u></p>  |
| 8             | <p>(Pages 56-66) <b>Unit 5: Exponents and Radicals</b>, Laws of Indices, Numbers with Rational Exponents, Surds, Operations with Exponents and Radicals, Exercise 5, MCQs 5</p> <p><b>(Pages 67-69) Revision:Numbers, Test Paper</b></p>   | <p><u>Teacher will guide the students to develop their personal diaries / observations to record their summer vacation activities (no specific</u></p> |

|               | 1.....Omit   | format or layout  |
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| 9             | (Pages 70-75) <b>Unit 6:Logarithms</b> , Indices, Standard Form and scientific Notation, Logarithms, Exercise 6 (Associated Topics)  | <u>Sharing the Summer Vacation diaries etc</u>  |
| 10            | (Pages 76-81) <b>Unit 6 (Contd):</b> Laws of Logarithms, First, Second and Third Laws of Logarithms, Exercise 6, MCQs 6  | <u>Importance of Eid ul Azha</u>  |
| 11            | (Pages 82-93) <b>Unit 7:Profit, Loss, Insurance and Taxes</b> , Percentage Profit, Percentage Loss, Percentage Discount, Insurance, Life Insurance, Health Insurance, Vehicle Insurance, TaxesExercise 7, MCQs 7             | <u>Celebration of Independence Day</u>  |
| 12            | (Pages 94-110) <b>Unit 8:Compound Proportion and Banking</b> , Overview be given through activity and visit to Local Bank, the Chapter is <b>non-examinable</b><br><b>(Pages 111-122) Unit 9: Stocks and Shares.....Omit</b> | Activity: Visit nearest Bank and learn about Bank Accounts, Compound Interest, Banking Instruments and Services, Currency Conversion and Financial Services |
| 13            | (Pages 123-126) <b>Unit 10: Averages:</b> Types of Averages, Simple Average, Weighted Average, Exercise 10 (Associated Topics)   |   |
| 14            | (Pages 127-131) <b>Unit 10 (Contd):</b> Average Speed, Exercise 10, MCQs 10<br><b>(Page129) Questions 10 and 13.....Omit</b><br><b>(Page130) Question 17.....Omit</b><br><b>(Page 132) Test Paper 2.....Omit</b>             | <u>Celebration of Defense Day</u>   |
| 15            | (Pages 133-138) <b>Unit 11: Matrices</b> , Types of Matrices, Transposition of a Matrix, Exercise 11 (Associated Topics)   | <u>Importance of Ashora-e-Moharram</u>  |
| 16            | (Pages 139-146) <b>Unit 11 (Contd):</b> Equality of Matrices, Addition and Subtraction of Matrices, Exercise 11, MCQs 11   |   |
| 17            | (Pages 147-154) <b>Unit 12: Operations on Polynomials</b> , Multiplication of Polynomials, Exercise 12a  |   |
| 18            | (Pages 154-158) <b>Unit 12 (Contd):</b> Division of Polynomials, Exercise 12b, MCQs 12   | <u>Celebration of World Teacher's Day</u>   |
| 19            | (Pages 159-165) <b>Unit 13: Algebraic Identities</b> , Cubes of the Sum and Difference of Two Terms, Exercise 13a<br><b>Page 165 Q 5 (vi-ix) ..... Omit</b>  |   |
| 20-21         | <b>MID TERM EXAM (PLAIN AREAS)</b>   |   |
| 22            | (Pages 165-167) <b>Unit 13 (Contd):</b> Special Products, Exercise 13b, MCQs 13  | <u>Celebration of Iqbal's Day</u>   |
| 23            | (Pages 168-170) <b>Unit 14: Factorization of Algebraic Expressions</b> , Exercise 14a  |   |

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| 24            | (Pages 170-174) <b>Unit 14 (Contd):</b> Factorization of Expressions in the form $ax^2 + bx + c$ Exercise 14b, MCQs 14   | <u>Importance of Rabi ul Awal and Seerat-un-Nabi</u>                                  |
| 25            | (Pages 175-179) <b>Unit 15: Basic Operations on Algebraic Fractions</b> , Exercise 15, MCQs15<br><b>(Page 178-179) Exercise 15 Questions 11,12,20,21,22 are non-examinable</b>   |   |
| 26            | (Pages 180-184) <b>Unit 16: More Simple Equations</b> , Equations involving Algebraic Fractions, Exercise 16a, Real Life Problems involving Simple Equations, Exercise 16b, MCQs 16  |   |
| 27            | (Pages 185-190) <b>Unit 17: Simultaneous Equations</b> , Simple Linear Equations, Simultaneous Linear Equations, Solving Simultaneous Linear Equations by Elimination Method, Exercise 17 (Associated Topics)  |   |
| 28            | (Pages 191-197) <b>Unit 17 (Contd):</b> Solving Simultaneous Linear Equations by Substitution Method, Real Life Problems involving Simultaneous Equations, Exercise 17, MCQs 17<br><b>(Pages 198-199) Revision: Algebra.....Omit</b><br><b>(Pages 200-201) Test Paper 3.....Omit</b> |   |
| 29            | <b>(Pages 202-208) Unit 18: Symmetry..... Omit</b><br>(Pages 209-213) <b>Unit 19: Practical Geometry</b> , Lines and Angles, Polygons, Quadrilaterals, Parallelogram, Exercise 19 (Associated Questions)   | <u>National Resolve Day to promote Education</u>                                      |
| 30            | (Pages 214-218) <b>Unit 19 (Contd):</b> Lines and Angles, Polygons, Quadrilaterals, Parallelogram,Exercise 19 (Associated Questions)   | <u>Celebration of Quaid's Day</u>   |
| 31            | (Pages 219-224) <b>Unit 19 (Contd):</b> Tangent to a Circle at a given point on it, Tangent to a Circle from a point outside it, Exercise 19   | Activity: Find the circumference and diameter of different circular shapes            |
| 32            | (Pages 225-230) <b>Unit 20: Axioms, Postulates, and Propositions</b> , Demonstrative Geometry, Reasoning, Axioms and Postulates, Propositions or Theorems, Theorems, Exercise 20 (Associated Questions)  | <u>Talk on Discipline Hardwork and Motivation</u>                                     |
| 33            | (Pages 231-237) <b>Unit 20 (Contd):</b> Theorems, Exercise 20<br><b>(Pages 237-238) Exercise 20, Questions 11-14.....Omit</b>  |   |
| 34            | (Pages 239-243) <b>Unit 21: Area and Volume</b> , Hero's Formula, Right Circular Cone, Net of a Cone, Surface Area of a Cone, Volume of a Cone, Sphere, Exercise 21 (Associated Questions)   | Project Asking the students to estimate the cost of paving the lawns in their schools |
| 35            | (Pages 244-249) <b>Unit 21 (Contd):</b> Surface Area of a Sphere, Volume of a Sphere, Exercise 21, MCQs 21   | <u>Kashmir Day</u>  |
| 36            | (Pages 250-262) <b>Unit 22: Trigonometry</b> , Pythagoras Theorem, Verification of the Theorem, Finding The Measurements Of The Sides Of A Right Angled Triangle Using Pythagoras Theorem, Trigonometric Ratios, Finding Measuremet of a Right Angled Triangle, Exercise 22, MCQs    |   |

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| 37                   | (Pages 263-276) <b>Unit 23: Information Handling</b> , Frequency Distribution, Collection of Data, Direct Personal Investigation, Indirect Oral Investigation, Schedules and Questionnaires, Classification and Tabulation of Data, Graphical Representation of Data, Bar Graphs, Histograms, Measures of Central Tendency, Mean, Weighted Mean, Median, Mode, Exercise 23, MCQS 23<br><b>(Pages 277-279) Test Paper 4.....Omit</b> |  |
| <b>Academic Week</b> | <b>Unit/Chapter &amp; Topic</b>   | <b>Personality Grooming Activities</b> |
| 38                   | Revision (Preferably through conceptual activities where possible)  | <u>Farewell Party</u>                  |
| 39 - 40              | <b>ANNUAL EXAM (PLAIN AREAS)</b>  |  |

**Note:** Teachers are strongly recommended to collect “**Guidelines for Teachers**” from the offices of the Principals/VP/HMs for an effective utilization of the syllabi breakdown. Examination papers will be set according to the said guidelines.

