**BUDHA DAL PUBLIC SCHOOL, SAMANA**

**LESSON PLAN**

**CLASS - XI**

**SUBJECT - MATHEMATICS**

**Topic - Sets**

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| P. K. Testing | * What is the meaning of collection? * What are Prime numbers? * What are consonants? |
| Learning Objectives | * Define sets, inclusive elements, objects and roaster form. * Recognize the difference between finite and infinite sets. * Make them aware about the uses of sets in daily life. |
| Contents | * Introduction * sets and their representation * Types of sets * Venn diagrams * Operation on sets * Application of sets |
| Art integrated Activity | Students will perform an activity to know about the Venn diagram of sets using charts with different colours. The video to get the concept of sets will be send to students  Link of Video <https://youtu.be/enHai1y5knc> |
| Home Work | Ex - 1.2, 1.3, 1.4. Will be given as homework. |

**Topic - Relation and Functions**

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| P. K. Testing | * What is the meaning of relation? * What is the meaning of function? * What is domain? |
| Learning Objectives | * Identify the difference between relation and function. * Recognize multiple representations of a linear functions * Calculate missing values. |
| Contents | * Introduction * Types of relation * types of functions * compositions of a functions |
| Art integrated Activity | Students will perform an activity of chapter relation by making graphs and be making wovden Modela with nails and rubbers. The video to get the concept of relation and function will send to the students.  Link of Video [https://](https://youtu.be/enHai1y5knc)diksha.gov.in/play/collection/do\_313.103 |
| Home Work | Ex - 2.1, 2.2, 2.3 Will be given as homework. |

**Topic - Relation and Functions**

|  |  |
| --- | --- |
| P. K. Testing | * What is the meaning of relation? * What is the meaning of function? * What is domain? |
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| Contents | * Introduction * Types of relation * types of functions * compositions of a functions |
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| Home Work | Ex - 2.1, 2.2, 2.3 Will be given as homework. |

**Topic - Trigonometric Functions**

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| P. K. Testing | * What is the meaning of Trigonometry? * What are the six trigonometric ratios? * What is the relation between Sinθ and cosecθ? |
| Learning Objectives | * Find the values of trigonometric Ratios and functions. * Learn the formulas of sub-multiple angles * Differentiate between degree measure and radian measure. |
| Contents | * Introduction * A and B formulas * C, D formulas |
| Art integrated Activity | Students will perform an activity of Trigonometry by making working models (with material wooden, bulbs, wires etc.)  Following link send to the students to understand the concept of Trigonometry:  Link of Video <https://youtu.be/>BVRNFLLCN41 |

**Topic - Complex number and Quadratic Equations**

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| P. K. Testing | * What is the meaning of Real Number? * What is the formula of discriminant? * What are natural Numbers? |
| Learning Objectives | * Define Complex number. * Convert a complex number into Polar form   Students are aware about the square root of a complex no. |
| Contents | * Complex Number * Algebra of a complex number. * Quadratic equations. |
| Art integrated Activity | Students will perform an activity of complex number by making charts and Assignments given to the students.  Link of Video <https://youtu.be/QYOF_NQEGUQ> |
| Homework | 5.1, 5.2 , 5.3 will be given as homework |

**Topic - Linear In equations**

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| P. K. Testing | * If x=5 then find the value of y in the equation 2x+3y=6 * Make a graph of 3x+2y=6 |
| Learning Objectives | * Represent linear in equations as region on co-ordinate plane * To develop the concept of linear in equations * To develop the concept about graphs |
| Contents | * In Equalities * Algebraic solutions * Graphical solutions |
| Art integrated Activity | The Video link send to the students so that students get more cleared about the concept of Linear in equations.  Link of Video <https://youtu.be/M.rAos92XRw> |
| Homework | 6.1, 6.2 , 6.3 will be given as homework |

**Topic - Sequences and Series**

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| P. K. Testing | * What is AP? * Find the sum of first 10 natural no's? * What is common difference and What is common ratio * What is the next term of the series 5, 10, 15, 20, 25 \_\_\_\_\_\_? |
| Learning Objectives | * Derive the relation between A.M and G.M * Obtain the series corresponding to a sequence * Make them aware about the use of AP and GP in daily life * Deduce the sum of n terms of some specific series. |
| Contents | * Sequences * Series * AP * GP * Relation between AM and GM * Sum of n terms in GP and AP |
| Art integrated Activity | Students will perform an activity through tables to understand the concept of AP Series. Students can learn this concept by skip counting. |
| Homework | 9.1, 9.2 , 9.3, 9.4 will be given as homework |

**Topic - Straight Lines**

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| P. K. Testing | * Give one example of Linear equation in 2 variable * What is the graphical representation of Linear equations |
| Learning Objectives | * Learn to derive in different forms of a line * Express the general equations of a line into * (a) Slope intercept form * (b) Intercepts form * (c) Perpendicular form   Derive the condition of a given point form a given line. |
| Contents | * Slope of a line * Various forms of the equation of a line * Distance of a point from a line * Angles between two lines * perpendicular distance of a point P (x,y,z) from the plane |
| Homework | 10.1, 10.2 , 10.3will be given as homework |

**Topic - Conic Section**

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| P. K. Testing | * What is the def. of circle? * What do you mean by word problem? |
| Learning Objectives | * Learn how circle, ellipse, Parabola, hyperbola form the sections of a cone. * Derive the equation of a circle * Make them aware about the use of a circle, ellipse, Parabola in daily life situation problems. |
| Contents | * Circle * Parabola * Ellipse * Hyperbola |
| Homework | 11.1, 11.2 , 11.3, 11.4  will be given as homework |

**Topic - Conic Section**

|  |  |
| --- | --- |
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| Learning Objectives | * Learn how circle, ellipse, Parabola, hyperbola form the sections of a cone. * Derive the equation of a circle * Make them aware about the use of a circle, ellipse, Parabola in daily life situation problems. |
| Contents | * Circle * Parabola * Ellipse * Hyperbola |
| Homework | 11.1, 11.2 , 11.3, 11.4  will be given as homework |

**Topic - Limits and Derivatives**

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| P. K. Testing | * What are T-Ratios * What is the value of x2+5x-3 if x=2 |
| Learning Objectives | * Understand the idea of derivatives * Evaluate the limits * Recognize the Algebra of limits * Obtain the formulas of Derivative |
| Contents | * Introduction * Limits of Algebric functions * Limits of Trigonometric functions * Derivations |
| Homework | 13.1, 13.2 , 13.3, 13.4  will be given as homework |

**Topic - Statistics**

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| P. K. Testing | * Find the mean of first 10 natural nos.? * Find the median of the data 2,5,6,7,9,12? * Write the formula of Mode? |
| Learning Objectives | * Recall basic terms mean, median and mode * Apply different methods to get mean of grouped data. * Understand the concept of mean deviation * Appreciate the use of methods in their daily life |
| Contents | * Introduction * Mean Deviation * S.D. * Varience * Cofficient of Varience * Practical problems |
| Homework | 15.1, 15.2 , 15.3, 15.4 will be given as homework |

**Topic - Probability**

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| P. K. Testing | * Define probability? * What is sample space? |
| Learning Objectives | * Compute the probability of an event * Analyse daily life facts with the help of probability and hence obtain conculsion * Support the concept with its wide application in other discipline like genhccs |
| Contents | * Sample space * Events * Axiomatic approach to probability |
| Homework | 16.1, 16.2 will be given as homework. |