DELHI PUBLIC SCHOOL, JAMMU
SYLLABUS BIFURCATION
SESSION: 2023-24

Class: XI   **Subject: Mathematics (041)**

Objectives:
The broad objective of teaching Mathematics at Senior School stage intends to help the students:
1. **To acquire knowledge and critical understanding, particularly by way of motivation and visualization, of basic concepts, terms, principles, symbols and mastery of underlying processes and skills.**
2. **To feel the flow of reasons while proving a result or solving a problem.**
3. **To apply the knowledge and skills acquired to solve problems and wherever possible, by more than one method.**
4. **To develop positive attitude to think, analyze and articulate logically.**
5. **To develop interest in the subject by participating in related competitions.**
6. **To acquaint students with different aspects of Mathematics used in daily life.**
7. **To develop an interest in students to study Mathematics as a discipline.**
8. **To develop awareness of the need for national integration, protection of environment, observance of small family norms, removal of social barriers, elimination of gender biases.**
9. **To develop reverence and respect towards great Mathematicians for their contributions to the field of Mathematics.**

S.No	Month	Name of units
1	April	**Sets, Relations and functions** **Foundation worksheet:-** To understand students previous knowledge and for the revision of previous concepts of well defined collections and collection which are not well defined. **Activity-1:-** To find the number of subsets of a given set and verify that if a set has n number of elements , then the total number of subsets is 2^n.
2	May	**Trigonometric Functions** **Assignment-1** on the topic Trigonometric Functions to provide opportunity for students to practice and also develop critical thinking and independent problem-solving skills. **Activity-2:-**To verify the relation between degree measure and radian measure of an angle**.** **Kahoot Quiz** on Trigonometric functions to test the knowledge of students. **Sample paper -1:** **Topics:** 1. Sets 2. Relations and functions
3	June	**Algebra (Complex numbers and quadratic equations)** **Class test-1:-** To evaluate the understanding of abstract concepts of the students on the topic Sets, Relations and functions and Trigonometric Functions **Team exercise (Power point presentation)** on Trigonometric Functions.
4	July	**Algebra (Linear Inequalities, Permutation and combination)** **Foundation worksheet** on linear inequalities for the revision of previous concepts. **Assignment-2** on the topic Linear Inequalities, Permutation and combination.
5	August	**Algebra (Binomial Theorem, Sequence and Series)** **Experiential learning: -** To enhance the knowledge and skill of the students. **Assignment-3** on the topic Binomial Theorem, Sequence and Series.

		Sample paper -2: **Topics:** Sets 1. Relations and functions 2. Trigonometric Functions 3. Complex numbers and quadratic equations 4. Linear Inequalities 5. Permutation and combination 6. Binomial Theorem 7. Sequence and Series
6	September	**Coordinate Geometry(Straight lines, Conic sections)** **Kahoot quiz** on the topic Straight lines to reiterate important concepts. **Experiential learning** to enhance the knowledge and skill of the students. ❖ **Activity-3:-**To verify the equation of a line passing through the point of intersection of two lines. ❖ **Activity-**4:- To construct different types of conic sections. **Assignment-4** on the topics Straight lines, Conic sections**.**
7	October	**Coordinate Geometry (Introduction to Three dimensional geometry)** **Assignment-5** on the topics Introduction to Three dimensional geometry. **Class test-3:-** To evaluate the understanding of the students on the topics Straight lines, Conic sections.
8	November	**Calculus(Limits and derivatives)** **Kahoot quiz** on the topic Limits and derivatives**.** **Assignment-8** on the topics Limits and derivatives**.** ❖ **Activity-5:-** Verification of geometrical significance of derivative.
9	December	**Statistics, Probability** **Assignment-8** on linear programming and Probability. ❖ **Activity-6:-** To write the sample space, when a coin is tossed once, two times, three times and four times. **Sample paper-3:-** 　**Topics:** 1. Sets 2. Relations and functions 3. Trigonometric Functions 4. Complex numbers and quadratic equations 5. Linear Inequalities 6. Permutation and combination 7. Binomial Theorem 8. Sequence and Series 9. Straight lines 10. Conic sections 11. Introduction to Three dimensional geometry 12. Limits and derivatives 13. Statistics 14. Probability
10	January	➢ **Case study questions**
11	February	➢ **Revision**
12	March	➢ **Revision**

Exam Schedule:

Syllabus of Cycle Test-1:

1. **Sets**
2. **Relations and functions**

Syllabus of Half –Yearly:

1. **Sets**
2. **Relations and functions**
3. **Trigonometric Functions**
4. **Complex numbers and quadratic equations**
5. **Linear Inequalities**
6. **Permutation and combination**
7. **Binomial Theorem**
8. **Sequence and Series**

Syllabus of Cycle Test-2:

1. **Straight lines**
2. **Conic sections**
3. **Introduction to Three dimensional geometry**

Syllabus for Final Examination:

1. **Sets**
2. **Relations and functions**
3. **Trigonometric Functions**
4. **Complex numbers and quadratic equations**
5. **Linear Inequalities**
6. **Permutation and combination**
7. **Binomial Theorem**
8. **Sequence and Series**
9. **Straight lines**
10. **Conic sections**
11. **Introduction to Three dimensional geometry**
12. **Limits and derivatives**
13. **Statistics**
14. **Probability**

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