

**N. C. JINDAL PUBLIC SCHOOL,PUNJABI BAGH, NEW DELHI-110026, ANNUAL CURRICULUM, 2025-2026**

| <b>Class-XII</b>                               | <b>Subject-Applied Mathematics(241)</b> | <b>Subject Teacher(Prepared by): KKJ</b>                                                                                   |             | <b>Designation: PGT</b> |                 |                   |
|------------------------------------------------|-----------------------------------------|----------------------------------------------------------------------------------------------------------------------------|-------------|-------------------------|-----------------|-------------------|
| <b>Preferred Text Book /Material</b>           | <b>Chapter's Name</b>                   | <b>Chapter Topic/Sub Topic</b>                                                                                             | <b>Term</b> | <b>StartDate</b>        | <b>End Date</b> | <b>No of Pds.</b> |
| Applied Mathematics Grade-XII CBSE Publication | <i>Matrices</i>                         | Introduction,Matrices & types ofmatrices,Equality of matrices, Transpose of a matrix, Symmetric and Skew symmetric matrix, | I           | 01/04/25                | 5/4/2025        | 7                 |
|                                                |                                         | Algebra of Matrices and it's real life applications                                                                        | I           | 7/4/2025                | 11/4/2025       | 5                 |
| Mathematics Lab                                | <i>Determinants</i>                     | Introduction of Determinants,Inverse of a matrix                                                                           | I           | 14/4/2025               | 19/4/2025       | 7                 |
| <i>Mannual Class XII</i>                       | Inverse of Matrix                       | Solving system of simultaneous equations using                                                                             |             |                         |                 |                   |
| Published by                                   | Solution of System                      | matrix method and Cramer’s rule,Formulate                                                                                  |             |                         |                 |                   |
| NCERT                                          | of Equation                             | real life problems and find solution by thease method                                                                      |             |                         |                 |                   |
|                                                | <i>Differentiations</i>                 | Differentiation of Implicit & Parametric function                                                                          | I           | 21/4/2025               | 25/4/2025       | 7                 |
|                                                |                                         | Derivatives up to second order                                                                                             |             |                         |                 |                   |
|                                                | <i>Revision</i>                         | Revision for First PeriodicTest 2025-26                                                                                    | I           | 28/4/2025               | 3/5/2025        | 8                 |
|                                                | <i>Application of</i>                   | Determine the rate of change of various quantities                                                                         | I           | 5/5/2025                | 9/5/2025        | 7                 |
|                                                | <i>Differentiations</i>                 | Marginal Cost and Marginal Revenue using derivatives                                                                       |             |                         |                 |                   |
|                                                |                                         | Increasing /Decreasing Functions,Maxima &Minima                                                                            | I           | 13/5/2025               | 16/5/2025       | 5                 |
|                                                |                                         | Solve applied problems related to optimization of cost, revenue and profit only.                                           |             |                         |                 |                   |
|                                                | Numbers, Quantifi-                      | Modulo Arithmetic,Congruence Modulo It's meaning                                                                           | I           | 1/7/2025                | 5/7/2025        | 7                 |
|                                                | cation &Numerical                       | Example,Algebra & application,Alligation & Mixture                                                                         |             |                         |                 |                   |
|                                                | <i>Applications</i>                     | Apply rule of allegation in real life situation                                                                            |             |                         |                 |                   |
|                                                |                                         |                                                                                                                            |             |                         |                 |                   |

|  |                                  |                                                                                                                                                            |   |           |           |   |
|--|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|---|-----------|-----------|---|
|  |                                  | Solve real life problems mathematically like Boats & Streams (upstream and downstream)                                                                     | I | 7/7/2025  | 11/7/2025 | 7 |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  |                                  | Pipes and Cistens, Race & Games, Numerical Inequalities.                                                                                                   | I | 14/7/2025 | 19/7/2025 | 8 |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  | <i>Probability Distributions</i> | Probability distribution of Random and discrete variables , Mathematical Expectation & Variance                                                            | I | 21/7/2025 | 25/7/2025 | 7 |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  |                                  | Binomial Distributions and its Mean , Variance & S.D                                                                                                       | I | 28/7/2025 | 2/8/2025  | 8 |
|  |                                  | Poisson Distributions and its Mean & Variance                                                                                                              |   |           |           |   |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  | <i>Revision</i>                  | Revision for Second Periodic Test 2025-26                                                                                                                  | I | 4/8/2025  | 8/8/2025  | 7 |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  |                                  | Normal Distributions and its evaluation of Standard Normal variate, Area relation of Mean & SD                                                             | I | 11/8/2025 | 14/8/2025 | 5 |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  | Time Based Data                  | Time Series, Meaning and Definition, Components of Time Series, Time Series analysis for univariate data                                                   | I | 18/8/2025 | 22/8/2025 | 7 |
|  |                                  | Secular Trend & Method of measuring trend .                                                                                                                |   |           |           |   |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  | <i>Linear Programming</i>        | Introduction and related terminology , Mathematical formulation of Linear Programming Problem                                                              | I | 25/8/2025 | 29/8/2025 | 7 |
|  |                                  | Different types of Linear Programming Problems                                                                                                             |   |           |           |   |
|  |                                  | Graphical method of solution for problems in two variables , Feasible and Infeasible Regions, Feasible and infeasible solutions, optimal feasible solution |   |           |           |   |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  | <i>Project &amp; File</i>        | Suggested Project discussion and File Submission                                                                                                           | I | 1/9/2025  | 6/9/2025  | 7 |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  | <i>Revision</i>                  | Revision for Half Yearly Examination 2025-26                                                                                                               | I | 8/9/2025  | 11/9/2025 | 5 |
|  |                                  |                                                                                                                                                            |   |           |           |   |
|  | <i>Examination</i>               | Half Yearly Examination 2025-26                                                                                                                            | I | 15/9/2025 | 26/9/2025 | 0 |

|  |                                            |                                                          |    |            |            |    |
|--|--------------------------------------------|----------------------------------------------------------|----|------------|------------|----|
|  |                                            |                                                          |    |            |            |    |
|  | <i>Integrals</i>                           | Introduction,Indefinite Integrals as family of curves,   | II | 29/9/2025  | 9/10/2025  | 8  |
|  |                                            | Evaluate indefinite integrals of simple algebraic        |    |            |            |    |
|  |                                            | functions by method of:(i)substitution (ii) partial      |    |            |            |    |
|  |                                            | fraction (iii) by parts                                  |    |            |            |    |
|  |                                            |                                                          |    |            |            |    |
|  | <i>Application of Integrals</i>            | Evaluate simple Definite Integral,Definite Integrals as  | II | 13/10/2025 | 17/10/2025 | 7  |
|  |                                            | area ,under the curv,Understand fundamental theorem      |    |            |            |    |
|  |                                            | of Integral calculus & apply it to evaluate the definite |    |            |            |    |
|  |                                            | integral,Apply the definite integral to find CS & PS     |    |            |            |    |
|  |                                            |                                                          |    |            |            |    |
|  | <i>Differential equations and Modeling</i> | Recognize a differential equation,Find the order and deg | II | 24/10/2025 | 31/10/2025 | 7  |
|  |                                            | of a differential equation,Formulating and Solving       |    |            |            |    |
|  |                                            | Differential Equations (Verification & Solution          |    |            |            |    |
|  |                                            |                                                          |    |            |            |    |
|  | Financial Mathematics                      | Perpetuity and Sinking Funds,Valuation of Bonds          | II | 1/11/2025  | 7/11/2025  | 4  |
|  |                                            |                                                          |    |            |            |    |
|  | <i>Revision</i>                            | Revision for Third PeriodicTest 2025-26                  | II | 10/11/2025 | 15/11/2025 | 8  |
|  |                                            |                                                          |    |            |            |    |
|  | Financial Mathematics                      | Calculation of EMI,Compound Annual Growth Rate           | II | 17/11/2025 | 21/11/2025 | 7  |
|  |                                            | Linear method of Depreciation                            |    |            |            |    |
|  |                                            |                                                          |    |            |            |    |
|  | <i>Inferential Statistics</i>              | Population and Sample,parameter and Statistics and       | II | 24/11/2025 | 28/11/2025 | 7  |
|  |                                            | Statistical Interferences, Null and Alternate Hypothesis |    |            |            |    |
|  |                                            | t-Test (one sample t-test and for a small group sample)  |    |            |            |    |
|  |                                            |                                                          |    |            |            |    |
|  | <i>Revision</i>                            | Revision for Pre- Board Examination 2025-26              | II | 1/12/2025  | 5/12/2025  | 8  |
|  |                                            |                                                          |    |            |            |    |
|  | <i>Examination</i>                         | Pre- Board Examination 2025-26                           | II | 6/12/2025  | 17/12/2025 | 0  |
|  |                                            |                                                          |    |            |            |    |
|  | <i>Revision</i>                            | Revision Classes for Board Examination 2025-26           | II | 18/12/2025 | 31/12/2025 | 12 |
|  | <b>Prepared by: KKJ</b>                    | <b>Sign.</b>                                             |    |            |            |    |
|  | <b>MATHEMATICS CO-ORDINATOR : KKJ</b>      |                                                          |    |            |            |    |

**Syllabus Planning for First Periodic Examination 2025-26**  
**Class-XII Sub:-Applied Mathematics(241) Time:- 45 minutes**  
**Marking Scheme**

| Sl.No. | Chapter/ Topic                     | Max.Marks |
|--------|------------------------------------|-----------|
| 1      | <i>Matrices &amp; Determinants</i> | 20        |

**Syllabus Planning for Second Periodic Examination 2025-26**  
**Class-XII Sub:-Applied Mathematics(241) Time:- 45 minutes**  
**Marking Scheme**

| Sl.No. | Chapter/ Topic                         | Max.Marks |
|--------|----------------------------------------|-----------|
| 1      | <i>Differentiation</i>                 | 7         |
| 2      | <i>Applications of Differentiation</i> | 13        |
|        | <b>Total</b>                           | <b>20</b> |

**Syllabus Planning for Half Yearly Examination 2025-26**  
**Class-XII Sub:-Applied Mathematics(241) Time:-3 hours**  
**Marking Scheme**

| Sl.No. | Chapter/ Topic                         | Max.Marks |
|--------|----------------------------------------|-----------|
| 1      | <i>Matrices &amp; Determinants</i>     | 10        |
| 2      | <i>Differentiation</i>                 | 8         |
| 3      | <i>Applications of Differentiation</i> | 11        |
| 4      | Numbers & its Application              | 14        |
| 5      | <i>Probability Distributions</i>       | 17        |
| 6      | Time Based Data                        | 10        |
| 7      | <i>Linear Programming</i>              | 10        |
|        | <b>Total</b>                           | <b>80</b> |

**Syllabus Planning for Third Periodic Examination 2025-26**  
**Class-XII Sub:-Applied Mathematics(241) Time:- 45 minutes**  
**Marking Scheme**

| Sl.No. | Chapter/ Topic                    | Max.Marks |
|--------|-----------------------------------|-----------|
| 1      | Integration and its Applications  | 10        |
| 2      | Differential Equations & Modeling | 10        |
|        | <b>Total</b>                      | <b>20</b> |

**Syllabus Planning for Pre Board Examination 2025-26**  
**Class-XII Sub:-Applied Mathematics(241) Time:-3 hours**  
**Marking Scheme**

| Sl.No. | Chapter/ Topic                   | Max.Marks |
|--------|----------------------------------|-----------|
| 1      | Numbers, Quantification &        | 11        |
| 2      | <i>Algebra</i>                   | 10        |
| 3      | <i>Calculus</i>                  | 15        |
| 4      | <i>Probability Distributions</i> | 10        |
| 5      | <i>Inferential Statistics</i>    | 5         |
| 6      | Time Based Data                  | 6         |
| 7      | Financial Mathematics            | 15        |
| 8      | <i>Linear Programming</i>        | 8         |
|        | <b>Total</b>                     | <b>80</b> |

|                                |       |
|--------------------------------|-------|
| Prepared by: KKJ               | Sign. |
| MATHEMATICS CO-ORDINATOR : KKJ |       |

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**CLASS: -XII (2025-2026)**

**APPLIED MATHEMATICS (241)**

**Internal Assessment Max. Marks: 20**

**Evaluation Criteria**

**Weightage for each area of internal assessment may be as under:**

| Sl. No. | Area and Weightage        | Assessment Area                            | Marks allocated |
|---------|---------------------------|--------------------------------------------|-----------------|
| 1       | Project work (10 marks)   | Project work and record                    | 5               |
|         |                           | Year-end Presentation/ Viva of the Project | 5               |
| 2       | Practical work (10 marks) | Performance of practical and record        | 5               |
|         |                           | Year-end test of any one practical         | 5               |
| Total   |                           |                                            | 20              |

**Assessment Plan**

1. Overall Assessment of the course is out of 100 marks.
2. The assessment plan consists of an External Exam and Internal Assessment.
3. External Exam will be of 03 hours duration Pen/ Paper Test consisting of 80 marks.
4. The weightage of the Internal Assessment is 20 marks. Internal Assessment can be a combination of activities spread throughout the semester/ academic year. Internal Assessment activities include projects and excel based practical. Teachers can choose activities from the suggested list of practical or they can plan activities of a similar nature. For data-based practical, teachers are encouraged to use data from local sources to make it more relevant for students.

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