Mathematics A Course

B.Sc.: Elective

General Features of the proposed course
1. To reflect new trends in mathematics course at the corresponding level in the well reputed international Universities.
2. To ensure that a student securing a first class in B.A / B.Sc, examination has prepared and understood at least 75% of the material of certain course.
3. To achieve the objective stated in 2 above, each paper will be divided into four sections and students will be required to answer at least one question from each section.

Outlines of Tests

<table>
<thead>
<tr>
<th>Paper</th>
<th>Title of Course</th>
<th>Marks</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Calculus and Analytic Geometry</td>
<td>100</td>
</tr>
<tr>
<td>B</td>
<td>Linear Algebra and Differential Equations</td>
<td>100</td>
</tr>
<tr>
<td>Total</td>
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<td>200</td>
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Syllabi and Courses of Reading

Paper A : Calculus and Analytic Geometry.

Note : Attempt six question by selecting two question from section I, two from section II, one from section III and one from section IV.

SECTION I (i) (2/12)

(ii) (Further Differentiation) (2/12)
Higher Derivatives, Lebniz Theorem, Rolle’s Theorem. Mean value Theorem Increasing and Decreasing functions. Taylor’s and Maclaurin’s Theorem with Remainders. Taylor and Maclaurin Series. Indeterminate Forms, L’ Hospital Rule.

SECTION II (i) Plane Analytic Geometry (2/12)

(ii) Analytic Geometry of three Dimension (2/12)

SECTION III(1/12) (Application of Differentiation)

SECTION IV(1/12) (Integration)

Recommended Books:

PAPER B: LINEAR ALGEBRA AND DIFFERENTIAL EQUATION

Note:- Attempt six question by selecting two question from section I, one form section II, one from Section III and Two from Section IV.

SECTION I (i) (2/12)

(ii) (2/12)

SECTION II (2/12)

SECTION III (2/12)

SECTION IV (i) (2/12)
(ii) (2/12)
Power series solutions of first order and second order equations, (only simple cases involving ordinary points are to be considered). Laplace transforms, Applications of Laplace transform method to problems associated with ODEs-System of Linear ODEs, and Their solution by operator method.

Recommended Books:-