<table>
<thead>
<tr>
<th>S. No.</th>
<th>Existing</th>
<th>Proposed</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Skill Enhancement Courses (SEC) offered to B.Sc. (H) Mathematics (in 3rd and 4th Semester) are of 3 Credits</td>
<td>Since these courses should of 4 Credits according to UGC Guidelines, amendments have been made in the existing Courses to make them of 4 Credits</td>
</tr>
<tr>
<td>2</td>
<td>Skill Enhancement Courses (SEC) offered to B.A./B.Sc. Programme (in 3rd, 4th, 5th, and 6th Semesters) are of 3 Credits</td>
<td>Since these courses should of 4 Credits according to UGC Guidelines, amendments have been made in the existing Courses to make them of 4 Credits</td>
</tr>
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<td>3</td>
<td>Only One Generic Elective Paper is offered (in 1st, 2nd and 3rd Semester) to students of B.Sc. (H), B.A. (H) &amp; B.Com (H) other than B.Sc. (H) Mathematics.</td>
<td>Two Generic Elective Papers are now offered each semester to students of B.Sc. (H), B.A. (H) &amp; B.Com (H) other than B.Sc. (H) Mathematics.</td>
</tr>
<tr>
<td>4</td>
<td>No Generic Elective papers were being offered to students of B.A, B.Sc. &amp; B.Com Programme in the 5th and 6th Semester</td>
<td>Generic Elective papers are now offered to students of B.A, B.Sc. &amp; B.Com Programme in the 5th and 6th Semester</td>
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<tr>
<td>Semester</td>
<td>Core Course (14)</td>
<td>Ability Enhancement Compulsory Course (AECC) (2)</td>
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<tr>
<td>I</td>
<td>C1</td>
<td>(English/ Hindi/ MIL Communication) OR Environmental Science</td>
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<td>C2</td>
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<td>II</td>
<td>C3</td>
<td>Environmental Science OR (English/ Hindi/ MIL Communication)</td>
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<td>III</td>
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<td>C14</td>
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</tbody>
</table>
SEC-I: LaTeX and HTML

4 Credits (2 Lectures + 4 Practical per week)
Theory: 50 marks (including internal assessment)
Practical: 50 marks

UNIT-I
Introduction to TeX and LaTeX, typesetting a simple document, adding basic information to a
document, environments, footnotes, sectioning and displayed material

Assents and symbols, Mathematical Typesetting (Elementary and Advanced): subscript/
superscript, fractions, roots, ellipsis, mathematical symbols, arrays, delimiters, multiline
formulas, spacing and changing style in math mode

Graphics in LaTeX, simple pictures using PS Tricks, Plotting of functions

Beamer Presentation

[1] Chapter 9 (9.1-9.8), Chapter 10 (10.1-10.3), Chapter 11 (11.1-11.4)
[2] Chapter 2 (2.1-2.5), Chapter 3 (3.1-3.3), Chapter 7 (7.1-7.2)

UNIT-II
HTML, creating simple web pages, images and links, design of web pages

[1] Chapter 15 (15.1-15.5)

Practical
(Ideal Lab Practical Batch Size: 15-20 Students)

[1] Chapter 9 (Exercises 4-10), Chapter 10 (Exercises 1, 3, 4, 6-9), Chapter 11 (Exercises 1, 3, 4,
5), Chapter 15 (Exercises 5, 6, 8, 9, 10, 11)

References:
SEC-2: Computer Algebra Systems and Related Softwares

4 Credits (2 Lectures + 4 Practical per week)
Theory: 50 marks (including internal assessment)
Practical: 50 marks

UNIT-I
Computer Algebra Systems (CAS), use of a CAS as a calculator

Computing and plotting functions in 2D, Plotting functions of two variables using Plot3D and ContourPlot, plotting parametric curves and surfaces, Customizing Plots, Animating plots, producing table of values, working with piecewise defined functions, combining graphics

Simple Programming in a CAS

Working with matrices, performing gauss elimination, operations (transpose, determinant, inverse), minors and cofactors, working with large matrices, solving system of linear equations, rank and nullity of a matrix, eigenvalue, eigenvector and diagonalization

[1] Chapter 12 (12.1-12.5)
[2] Chapter 1, Chapter 3 (3.1-3.6, 3.8), Chapter 6 (6.2, 6.3), Chapter 7 (7.1-7.8)
Note: Theoretical and Practical demonstration should be carried out only in one of the CAS: Maxima/ Mathematica/ Maple or any other.

UNIT-II
Statistical software R, R as a calculator, reading and getting data into R: combine and scan commands, types and structure of data items with their properties, Manipulating vectors, data frames, matrices & lists, viewing objects within objects, constructing data objects & conversions, Summary commands, Summary statistics for vectors, data frames, matrices & lists, summary tables, Stem & leaf Plot, Histogram, Plotting in R: Box-whisker Plots, Scatter Plot, Pairs Plot, line charts, Pie Chart, Cleveland Dot Charts, Bar Charts, explore data & relations, saving graphs
[2] Chapters 2-5, 7

Practical
(Ideal Lab Practical Batch Size: 15-20 Students)
[1] Chapter 12 (Exercises 1-4, 8-12), Chapter 14 (Exercises 1-3)
[2] Chapter 3 [Exercises 3.2 (1), 3.3 (1, 2, 4), 3.4 (1, 2), 3.5 (1-4), 3.6 (2, 3)], Chapter 6
[Exercises 6.2, 6.3], Chapter 7 [Exercises 7.1 (1), 7.2, 7.3 (2), 7.4 (1), 7.5, 7.6]
[3] Relevant exercises of Chapters 2-5, 7 (The practical may be done on the database to be downloaded from https://data.gov.in/)

References: