

BA124: Mathematics Based Practicals

Course Objectives:

- Introduce students to mathematics-based software
- Enable plotting of graphs for various functions using software
- Plot straight lines and represent conics as sections of a cone
- Develop understanding of basic mathematical concepts
- Learn applicability of software in solving mathematical problems

Assessment:

Theory: 100marks

External:70(50 theory+20 Viva), Internal:30

Time allowed: 1.5 hours

Course Outline:

Section A: Functions

- Domain and range of standard functions
- Trigonometric functions

Section B: Straight Lines and Conic Sections

- Straight lines
- Conic sections
- Equation of a circle

Practicals:

- Plot graphs of functions such as: $\sqrt{(ax+b)}$, $e^{(ax+b)}$, $\sin(ax+b)$
- Plot the general equation of a straight line
- Show conics as sections of a cone
- Draw circles when: Center and radius are given, or Center and a point on the circle is given

References:

- NCERT Mathematics Textbooks – Class XI & XII

Aswini

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