

Syllabus for the AIML department-conducted written test on basic mathematics.

Basic arithmetic: fractions, percentages, ratios, powers, roots, scientific notation

Elementary algebra: simplifying expressions, solving linear/quadratic equations, inequalities

Functions and graphs: interpreting simple functions, slopes, intercepts, exponential/logarithmic growth

Basic calculus readiness: intuitive meaning of derivative, rate of change, maxima/minima

Coordinate geometry and plotting: reading points, lines, curves, and simple 2D plots

Quantitative reasoning: interpreting numerical information, units, orders of magnitude, approximation

Basic data literacy: rows, columns, tables, spreadsheets, CSV-like data, missing values

Basic descriptive summaries: mean, median, percentage change, range, simple comparisons

Plot interpretation: bar charts, line plots, histograms, scatter plots, trends, outliers

Prior programming exposure in any language: variables, data types, conditionals, loops, functions

Simple code reading/debugging: tracing short pseudocode, finding obvious logical errors

Basic collections: lists/arrays, strings, key-value pairs/dictionaries at a usage level

Algorithmic thinking: step-by-step procedures, input/output, simple search or counting logic

Computer/file basics: files, folders, paths, file extensions, running a program/script conceptually

Minimal AI/data vocabulary: data, dataset, feature/input, label/output, model, prediction, training, testing

Problem-type intuition: recognising whether a task asks for prediction, grouping, comparison, or pattern-finding