Number System Syllabus for CAT Exam

A common issue while preparing with Number System for CAT is that students are not aware or relative importance of various topics that are asked in Number System. They spend time sharpening their skills to find out the last two digits, or to understand Fermat Theorem to find out the remainders in Number System questions. These types of concepts are not required for CAT Preparation. It is one of the low priority areas of CAT syllabus.

Given below are some of the topics that you should cover in Number System

- Basics of Numbers
- Properties of Numbers
- Divisibility Rules
- Divisibility and Factors
- Highest Common Factor and Lowest Common Multiple
- Finding Out Last Digit
- Finding Out Last Two Digits
- Number of trailing zeroes
- Special cases of Factorials – Highest Power in a prime, rightmost non zero digit
- Finding out Remainders
    - Based on basic divisibility rules
    - Based on Binomial Theorem
    - Based on Simplifying the Dividend (Single and / or Multiple Divisors)
    - Fermat's Theorem
    - Euler's Theorem
    - Pattern Recognition and cyclicity of remainders
    - Wilson's Theorem
- Base Systems
    - Conversion of Bases
    - Addition / subtraction / multiplication in different bases

Arithmetic Syllabus for CAT Exam

As far as CAT syllabus for Arithmetic is concerned, I would like to suggest that you divide it in three parts.

Part 1 – Basic concepts from the syllabus that you need to solve any question

- Simple equations
- Mean Median Mode
- Percentages
- Ratio, Proportion and Variations
- Simple and Compound Interest

Part 2 – High probability areas of CAT syllabus on which questions can be asked in the CAT 2018 exam

- Installments
- Profit and Loss
- Averages, Mixtures and Alligations
- Time Speed and Distance
  - Basic Concepts
  - Linear and Circular Races
  - Boats and Stream
  - Relative Speed
  - Escalator Based Questions
- Time and Work
  - Pipes and Cisterns

Part 3 – Concepts from CAT syllabus that you should know but are unlikely to be asked in the CAT

- Calendars
- Clocks
- Stocks and Shares

Algebra Syllabus for CAT Exam

Algebra is probably the most neglected portion of Quantitative Aptitude in CAT syllabus for the simple reason that people do not know what to do in it and where to practice for it. Some students think that they can skip topics like Basic Algebraic Equations and Inequalities because you rarely get direct questions on those in CAT. While it is technically correct, it is still a bad idea to skip these chapters. The reason being that the other questions that are asked in the CAT exam are based on these concepts.

Given below are some of the topics that you can and should go through to get a good grasp on the Algebra section.

- Basics Algebraic Formulae
- Linear Equations
  - Problems on ages
  - Number of integer solutions
- Quadratic Equations
  - Finding out roots
  - Maxima and Minima
- Higher Degree Equations
  - Descartes Rule of Signs
- Inequalities
- Logarithm
- Functions & Graphs
  - Modifications of graphs
  - Smallest value in a maximum function

If you have to look at the most important chapter in Quantitative Aptitude, it has to be Functions. Do not ignore that.

Geometry Syllabus for CAT Exam

Over the years, Geometry has proven to be the most scoring (most scary for some students) part of the Quantitative Aptitude section. It is the only topic where you can hope for a direct application of a concept or formula without thinking too much about it. Often, you can just draw a diagram or even assume a value to get to the answer fairly quickly. The problem with Geometry portion of CAT syllabus is that quite a lot of students have not studied Geometry at all after class 10th. Even if it was a part of the syllabus, they focused on fancy topics lie Permutation and Combination or Probability. It would take some time to get back in to the groove but every hour that you spend on preparing for Geometry will help you in the CAT exam.

As far as the topics and syllabus for Geometry is concerned, this list below should be helpful

- Lines and Angles
- Triangles – Basic Concepts
  - Area, Angles
  - Similar Triangles
  - Special Triangles (30-60-90, 45-45-90, 30-30,120)
- Polygons
- Circles
- Solids / Mensuration – 3D Geometry
- Co-ordinate Geometry
- Trigonometry

Among the above topics, Co-ordinate Geometry and Trigonometry are low priority areas. If you can spend even an hour on Trigonometry to understand the basic concepts and simple applications of those basic concepts – it should be enough for the CAT exam. You do not need anything more than that. Similarly, as far as Co-ordinate Geometry is concerned – it is a combination of a large number of formulas. If you are good at remembering stuff, 75% of your co-ordinate geometry problems would be solved in less than a minute.

Modern Math Syllabus for CAT Exam

Modern Math is a low priority topic as far as the CAT exam is concerned. It also includes some part that isn't really covered till class 10th Math such as Permutation and Combination, Probability, etc. However, those topics are not that important. What is important is topics like Set Theory. Questions on Set Theory can also be asked in the Logical Reasoning section so it is important that you are well prepared for it.

Given below is a list of topics that are included in Modern Math section of CAT syllabus:

- Sequence and Series
- Binomial Theorem
- Set Theory
  - Venn Diagram based on 2 / 3 sets
  - Venn Diagram based on 4 sets
  - Maxima and Minima related to values in a set
  - 'At least n' type of problems
- Permutation and Combination
  - Fundamental Principles of Counting
  - Distribution of Objects
  - Problems based on Grids
  - Rank of a word in a dictionary
- Probability