

DEPT OF MATHEMATICS

Announces

Multi Disciplinary Course (MDC)

Mathematics for Competitive Examination – Part I

Course Summary

- The course is designed to equip students with essential arithmetic and problem-solving skills required for competitive exams. It covers topics ranging from fundamental arithmetic operations such as number systems, fractions, and roots to more advanced concepts like financial mathematics, time-speed-distance calculations, and problem-solving techniques..

First Semester Syllabus

I		Fundamentals of Arithmetic
	1	Number System
	2	Number Series
	3	Simple and Decimal Fractions
	4	HCF and LCM
	5	Square root and Cube root
II		Basic Arithmetic Operations
	6	Simplification
	7	Average
	8	Ratio and Proportion
	9	Problems based on ages
	10	Percentage

Syllabus continued

III	Financial Mathematics	
	11	Profit and Loss
	12	Discount
	13	Simple Interest
	14	Compound Interest
IV	15	Work and Time
	Time, Speed, and Distance	
	16	Speed, Time and Distance
	17	Problems based on trains
	18	Boats and Streams
19	Clock and Calendar	

References

- **1.** Fast Track Objective Arithmetic, Rajesh Verma, Arihant Publications India limited, 2018 (Primary Reference).
- **2.** Objective Arithmetic for Competitive Examinations, Dinesh Khattar, Pearson Education, 2020.
- **3.** Quicker Objective Arithmetic, Dr Lal, Jain, Upkar's publication, 2010.

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Mathematics for Competitive Examination – Part II

Course Summary

- The course "Mathematics for Competitive Examinations - Part II" is designed to prepare students for competitive exams by focusing on various reasoning and problem-solving skills. It covers a range of topics including non-verbal reasoning, verbal reasoning, spatial reasoning, and abstract reasoning, each module addressing different aspects of these skill sets.

Second Semester Syllabus

		Non-Verbal Reasoning
I	1	Similarity of Pairs
	2	What come Next
	3	Odd One out
	4	Coding and Decoding
	5	Ranking Test
II	Reasoning Contd.	
	6	Blood relations
	7	Blood relations Contd.
	8	Direction Sense Test
	9	Direction Sense Test contd.
	10	Logical Venn Diagram

Syllabus continued

III	Spatial Reasoning	
	11	Figure analogy
	12	Figure series
	13	Figure Classification
	14	Mirror and Water Images
	15	Counting of figures
IV	Abstract Reasoning	
	16	Cube and Dice
	17	Logical and Analytical Reasoning
	18	Geometry mensuration
	19	Data Interpretation

References

- 1. A Fast Track Course in MENTAL ABILITY, Amogh Goel, Arihant Publications India limited, 2016. (Primary Reference).
- 2. The Mental Ability, Logical Reasoning & Problem-Solving Compendium for IAS Prelims General Studies Paper 2 & State PSC Exams, Disha Experts, Disha Publications, 2018.
- 3. The Pearson Guide to Verbal Ability and Logical Reasoning for the CAT, Nishit K. Sinha, Pearson Education, 2014.