

Programme	B. Sc. Mathematics Honours			
Course Code	MAT2FM106(2)			
Course Title	<b>MATHEMATICS FOR COMPETITIVE EXAMINATIONS - PART II</b>			
Type of Course	<b>MDC</b>			
Semester	II			
Academic Level	100 - 199			
Course Details	Credit	Lecture/Tutorial per week	Practical per week	Total Hours
	3	3	-	45
Pre-requisites	Basic Arithmetic and Computational Skill			
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.			

### Course Outcomes (CO):

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Apply mathematical methods to solve problems	Ap	P	Internal Exam/Assignment/ Seminar/ Viva / End Sem Exam
CO2	Understand the basic concepts of logical reasoning Skills	U	P	Internal Exam/Assignment/ Seminar/ Viva / End Sem Exam
CO3	Manage time in competitive examinations	C	M	Internal Exam/Assignment/ Seminar/ Viva / End Sem Exam

\* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)

# - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)

**Detailed Syllabus:**

Module	Unit	Content	Hrs (36+ 9)	Ex Marks (50)	
		<b>Time, Speed, and Distance</b>			
<b>I</b>	1	Work and Time	9	12	
	2	Speed, Time and Distance			
	3	Problems based on trains			
	4	Boats and Streams			
	5	Clock and Calendar			
<b>II</b>	<b>Non-Verbal Reasoning</b>			13	
	6	Similarity of Pairs			
	7	What come Next			
	8	Odd One out			
	9	Coding and Decoding			
	10	Ranking Test			
<b>III</b>	<b>Reasoning Contd.</b>			13	
	11	Blood relations			
	12	Blood relations Contd.			
	13	Direction Sense Test			
	14	Direction Sense Test contd.			
	15	Logical Venn Diagram			
<b>IV</b>	<b>Abstract Reasoning</b>			12	
	16	Cube and Dice			
	17	Logical and Analytical Reasoning			
	18	Geometry mensuration			
	19	Data Interpretation			
<b>V</b>	<b>Open Ended</b>			9	
	Alphabet and Number Sequence Test, Paper folding and paper cutting				

**References:**

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