

Programme	B. Sc. Mathematics Honours			
Course Code	MAT2FM106(2)			
Course Title	MATHEMATICS FOR COMPETITIVE EXAMINATIONS - PART II			
Type of Course	MDC			
Semester	II			
Academic Level	100 - 199			
Course Details	Credit	Lecture/Tutorial	Practical	Total Hours
	3	per week 3	per week -	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)
		Time, Speed, and Distance		
I	1	Work and Time	9	12
	2	Speed, Time and Distance		
	3	Problems based on trains		
	4	Boats and Streams		
	5	Clock and Calendar		
II		Non-Verbal Reasoning	9	13
	6	Similarity of Pairs		
	7	What come Next		
	8	Odd One out		
	9	Coding and Decoding		
	10	Ranking Test		
III		Reasoning Contd.	9	13
	11	Blood relations		
	12	Blood relations Contd.		
	13	Direction Sense Test		
	14	Direction Sense Test contd.		
	15	Logical Venn Diagram		
IV		Abstract Reasoning	9	12
	16	Cube and Dice		
	17	Logical and Analytical Reasoning		
	18	Geometry mensuration		
	19	Data Interpretation		
V		Open Ended	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.