

Programme	B. Sc. Mathematics Honours			
Course Code	MAT1FM105(2)			
Course Title	MATHEMATICS FOR COMPETITIVE EXAMINATIONS - PART I			
Type of Course	MDC			
Semester	I			
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 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..			

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	Apply numerical skills in competitive examinations	Ap	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)	Ext. Marks (50)
I		Fundamentals of Arithmetic	9	12
	1	Place Value and Face Value		
	2	Divisibility Tests		
	3	Number Series		
	4	Simple Fractions		
	5	Decimal Fractions		
II		Basic Arithmetic Operations	9	13
	6	HCF		
	7	LCM		
	8	Square root		
	9	Cube root		
	10	Simplification		
III		Basic Arithmetic Operations cont.	9	13
	11	Average		
	12	Ratio		
	13	Proportion		
	14	Problems based on ages		
	15	Percentage		
IV		Financial Mathematics	9	12
	16	Profit and Loss		
	17	Discount		
	18	Simple Interest		
	19	Compound Interest		
V		Open Ended	9	
		Types of Numbers, Mixture or Allegation, Partnership, Pipes and Cisterns		
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.				

Mapping of COs with PSOs and POs :

	PSO5	PSO6	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	0	3	2	3	2	3	1	2
CO 2	2	0	3	1	3	2	3	1	2
CO 3	2	0	2	2	2	2	2	1	2

Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

Assessment Rubrics:

- Assignment/ Seminar
- Internal Exam
- Viva
- Final Exam (70%)

Mapping of COs to Assessment Rubrics:

	Internal Exam	Assignment	Seminar	Viva	End Semester Examinations
CO 1	✓	✓	✓	✓	✓
CO 2	✓	✓	✓	✓	✓
CO 3	✓	✓	✓	✓	✓