



Royal College of Arts Science and Commerce (Autonomous)

Affiliated to University of Mumbai

OPEN ELECTIVE

Course: MATHEMATICS FOR COMPETITIVE
EXAMINATION

Syllabus for Semester: III / IV

Syllabus for Undergraduate Programme as
per National Education Policy (NEP-2020)

with effect from the academic year

2025-2026

Course/ Paper Title	Mathematics for competitive examination
Course offered as	Open elective
Course Code	RUSMAOE301/ RUSMAOE401
Semester	III/IV
No. of Credits	2
No. of lecture Hours/week	2

Sr No.	Course Learning Objectives:
CLO1	To inculcate the skills to solve mathematical and logical problems asked in competitive examinations' question papers.
CLO2	To increase the students' proficiency to improve the speed for solving problems asked in the competitive examinations' question papers.

Course Outcomes:

	On completing the course, the student will be able to:
CO1	Solve a range of problems based on the number systems, system of linear equations, averages, ratio, and proportion efficiently, demonstrating a foundational understanding of these mathematical concepts without requiring extensive time or complex calculations
CO2	Efficiently apply mathematical concepts to solve problems on discount, percentage, interest, allegations and mixtures, time and distance, work and time with speed and accuracy.

Detailed Syllabus:

Module	Title with content	No. of lectures
I	1. Number systems, indices and surds 2. Set theory 3. System of linear equations 4. Average 5. Ratio and proportion	15 Hours
II	1. Discounts and Percentage 2. Simple interest and compound interest 3. Allegations and mixtures 4. Time and distance, 5. Problems on work and time,	15 Hours

Reference Books:

1. R. S. Aggarwal, Quantitative Aptitude (Fully solved), Reprint 2016, S. Chand.
2. M. Tyra, Magical book on Quicker Math

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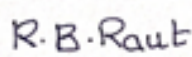
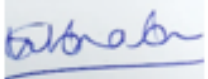

Evaluation Pattern for Open Elective

Continuous Internal Assessment		
A	One class test	25 marks
B	Assignments / Projects	10 marks
C	Quiz/seminar	10 marks
D	Active participation	05 marks
	Total	50 marks

Question Paper Pattern (Class test):

Objective (MCQ – 15)	15Marks (1 Mark each)
Descriptive (2 out of 3)	10 Marks(5 Marks each)
Total	25 Marks

Board of studies in Mathematics

	Category	Name and Designation	Affiliation	Signature
1	Chairperson (Head of Department)	Mrs Komal Pravin Wategaonkar, Assistant Professor.	University of Mumbai	
2	Full time teacher of the Department	Mrs Rugma Pramod Nair, Assistant Professor.	University of Mumbai	
3	Two subject experts from outside the Parent University nominated by the Academic Council.	Dr Ananthnarayan Hariharan, Associate Professor.	I.I.T., Bombay	
		Dr. Amiya Bhowmick, Assistant Professor.	ICT Mumbai	
4	One expert nominated by the Vice-Chancellor from a panel of six recommended by the College Principal.	Dr. Rajesh Raut Assistant Professor, R. D. National college.	University of Mumbai	
5	One expert nominated by the college Principal	Mr. Subhash Krishnan Associate Professor, Vice Principal, K J Somaiya college of Science and Commerce.	University of Mumbai	
6	One representative from industry/corporate sector/allied area relating to placement.	Mr. Arbaz Sayed Data Scientist	Wipro, Hyderabad, Telangana	
7	One postgraduate meritorious alumnus nominated by the <u>Principal</u> .	Ms. Harshita Rathore, Supply Chain Fulfillment Manager,	Microsoft, Austin, Texas, USA	