

**Department of Mathematics**  
**Open Elective/Generic Elective (OE/GE)**  
**Course**  
**(Semester-I)**

Year	Semester	Course Type	Course Code	Course Title	Theory/ Practical	Credits	No. of Lectures/ Practical	Page No.
1 <sup>st</sup>	I	OE/GE	MT-OE-101(A)T	Mathematics for Competitive Examination-I	Theory	2	30L	2
			MT-OE-101(A)P	Practicals Based on Mathematics for Competitive Examination-I	Practical	2	14P	3

**(Semester-II)**

Year	Semester	Course Type	Course Code	Course Title	Theory/ Practical	Credits	No. of Lectures/ Practical	Page No.
1 <sup>st</sup>	II	OE/GE	MT-OE-102T	Mathematics for Competitive Examination-II	Theory	2	30L	5
			MT-OE-102P	Practicals Based on Mathematics for Competitive Examination-II	Practical	2	14P	6

## Semester-I

**Generic Elective/Open Elective Course [MT-OE-101(A)T]:**  
**Mathematics for Competitive Examination –I**

Course Code & Title	Credits	Credit Distribution of the Course	
		Theory	Practical
<b>MT-OE-101(A)T - Mathematics for Competitive Examination –I</b>	4	2	2

**LEARNING OBJECTIVES:**

- The main aim of introducing “Quantitative Aptitude” for mathematics students is to develop skill to meet the competitive examinations for better job opportunity.
- Effort has been made to accommodate fundamental, mathematical aspects to instill confidence among students.
- Enrich their knowledge and to develop their logical reasoning thinking ability.

**COURSE OUTCOMES:**

After completion of this course student will be able to:

**CO-1:** Have a strong base in the fundamental mathematical concepts.

**CO-2:** Gain appropriate skills to succeed in preliminary selection process for recruitment

**CO-3:** Grasp the approaches and strategies to solve problems with speed and accuracy.

**CO-4:** Solve the problems easily by using Short-cut method with time management which will be helpful to them to clear the competitive exams for better job opportunity.

**SYLLABUS OF MT-OE-101(A)T: Mathematics for Competitive Examination –I****Unit I: Arithmetic Ability****[15 Hours]**

1.1 Number Systems.

1.2 LCM and HCF.

1.3 Decimal Fractions.

1.4 Simplification.

1.5 Square Roots and Cube Roots

**Unit II: Quantitative Ability****[15 Hours]**

2.1 Average.

2.2 Problems on Ages.

2.3 Surds &amp; Indices.

2.4 Percentages.

2.5 Problems on Numbers.

**Generic Elective/Open Elective Course [MT-OE-101(A)P]:  
Practicals Based on Mathematics for Competitive Examination –I**

Course Code & Title	Credits	Credit Distribution of the Course	
		Theory	Practical
<b>MT-OE-101(A)P - Practical Based on Mathematics for Competitive Examination –I</b>	<b>4</b>	<b>2</b>	<b>2</b>

**MT-OE-101(A)P: 12 Practical based on Mathematics for Competitive Examination-I [MT-OE-101(A)T]**

**ESSENTIAL/RECOMMENDED READINGS:**

- 1) R.S. Aggarwal, “Quantitative Aptitude for Competitive Examinations”, Revised Edition, S Chand and Co. Ltd, New Delhi, 2018.
- 2) Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
- 3) Quantitative Aptitude: Numerical Ability (Fully Solved) Objective Questions, Kiran Prakashan, Pratogitaprakasan, Kic X, Kiran Prakashan publishers.
- 4) Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata Mc Graw hill publications.



## Semester-II

**OPEN ELECTIVE / GENERIC ELECTIVE COURSE (MT-OE-102T):**  
**Mathematics for Competitive Examination-II**

Course Code & Title	Credits	Credit Distribution of the Course	
		Theory	Practical
<b>MT-OE-102T - Mathematics for Competitive Examination-II</b>	2	2	2

**LEARNING OBJECTIVES:**

The Learning Objectives of this course are as follows:

- Develop skill to meet the competitive examinations for better job opportunity.
- Accommodate fundamental, mathematical aspects to instill confidence among students.
- Enrich their knowledge and to develop their logical reasoning thinking ability.

**COURSE OUTCOMES:**

After completion of this course student will be able to:

- CO-1:** Gave a strong base in the fundamental mathematical concepts.
- CO-2:** Gain appropriate skills to succeed in preliminary selection process for recruitment.
- CO-3:** Grasp the approaches and strategies to solve problems with speed and accuracy.
- CO-4:** Solve the problems easily by using Short-cut method with time management which will be helpful to them to clear the competitive exams for better job opportunity.
- CO-5:** Analyze the Problems logically and approach the problems in a different manner.

**SYLLABUS OF MT-OE-102T: Mathematics for Competitive Examination-II****Unit I: Mathematical Aptitude****[15 Hours]**

- 1.1. Logarithm
- 1.2. Permutation and Combinations
- 1.3 Probability
- 1.4 Profit and Loss
- 1.5 Simple and Compound Interest

**Unit II: Computational Ability****[15 Hours]**

- 2.1 Time, Speed and Distance
- 2.2 Time & Work
- 2.3 Ratio and Proportion
- 2.4 Area
- 2.5 Mixtures and Allegation

**OPEN ELECTIVE / GENERIC ELECTIVE COURSE (MT-OE-102P):**  
**Practicals Based on Mathematics for Competitive Examination-II**

Course Code & Title	Credits	Credit Distribution of the Course	
		Theory	Practical
<b>MT-OE-102P - Practical Based on Mathematics for Competitive Examination-II</b>	<b>2</b>	<b>2</b>	<b>2</b>

**MT-OE-102P:12 Practical based on MT-OE-102T**

**ESSENTIAL/RECOMMENDED READINGS:**

1. R.S. Aggarwal, "Quantitative Aptitude for Competitive Examinations", Revised Edition, S. Chand and Co. Ltd, New Delhi, 2018.
2. Quantitative Aptitude and Reasoning by R V Praveen, PHI publishers.
3. Quantitative Aptitude: Numerical Ability (Fully Solved) Objective Questions, Kiran Prakashan, Pratogita prakasan, Kic X, Kiran Prakashan publishers.
4. Quantitative Aptitude for Competitive Examination by Abhijit Guha, Tata Mc Graw hill publications.

