



**RAMAIAH**  
College of Arts, Science  
& Commerce

# DEPARTMENT OF MATHEMATICS

## Department Manual

## FOREWORD

It is said that Mathematics is the gate and key of Science. In the era of globalization, liberalization and information technology, much of the data processed in digital form.

The major reasons for a huge interest in learning Mathematics is because mathematical skills are crucial for a wide array of analytical, technological, scientific, security and economic applications. Training students to become adept users of Mathematics and to appreciate its usefulness is of paramount importance for the future. Also Mathematics is important because it is used in so many other subjects. Learning mathematics forces one to think logically and solve problems using those skills. If teacher want to be precise and thoughts and word skill. Hence the department of Mathematics is doing it at most best to make the students aware of the place and importance of mathematics in today's technological driven world. The department of Mathematics is engaged in pursuit of making maths enjoyable and exciting subject

**Mr. Ravindranath.K**  
**Head of the Department**

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## **INTRODUCTION**

Department of Mathematics was established since the inception of the college in 1994. The department is strong with all the members of the faculty having more than 10 years of experience. We go by the vision and mission of the college. Department has approximately 220 students. Apart from following the curriculum, the department concentrates in training the students to face all competitive exams and interviews boldly and confidently. We encourage the students who attend workshops, seminars in other colleges.

## **COURSES OFFERED**

### **1. B.Sc(EMCs)**

### **2. BCA**

### **3. Mathematics for Chemists (M.Sc)**

**B.Sc** – Mathematics subject is one of the optional subject and compulsory for all six semesters.

**BCA** - Mathematics subject is one of the optional subject and compulsory only for I and II semester.

**Mathematics for Chemist (M.Sc)** - Mathematics subject is one of the optional subject and compulsory only for I semester.

# SYLLABUS

## **I Semester B.Sc**

### **Paper 1**

1. Matrices
2. Differential Calculus
3. Integral Calculus
4. Analytical Geometry of three dimensions

## **II Semester B.Sc**

### **Paper 2**

1. Group Theory
2. Differential Calculus
3. Integral Calculus
4. Differential Equations

## **III Semester B.Sc**

### **Paper 3**

1. Groups
2. Sequence of real numbers
3. Series Of Real Numbers
4. Differential Calculus

## **IV Semester B.Sc**

### **Paper 4**

1. Groups
2. Fourier Series
3. Differential Calculus
4. Mathematical Methods- I
5. Differential Equations-II

## **V Semester B.Sc**

### **Paper 5**

1. Rings, Integral Domains, Fields
2. Differential Calculus Of Scalar And Vector Fields
3. Numerical Methods - I

## **V Semester B.Sc**

### **Paper 6**

1. Calculus Of Variation
2. Line And Multiple Integrals
3. Integral Theorems

## **VI Semester B.Sc**

### **Paper 7**

1. Linear Algebra
2. Orthogonal Curvilinear Coordinates
3. Partial Differential Equations

## **VI Semester B.Sc**

### **Paper 8**

1. Complex Analysis
2. Numerical Methods – II

## **I Semester BCA**

1. Sets, Relations and Functions
2. Matrices
3. Logarithms
4. Permutation and Combination
5. Groups
6. Vectors
7. Analytical Geometry in two Dimensions

## **II Semester BCA**

1. Numerical Analysis
2. Statistics
3. Probability

## **Mathematics for Chemists (M.Sc)**

1. Vectors
2. Matrices
3. Calculus
4. Integration
5. Elementary Differential equation
6. Probability



## **Flexibility and Enrichment**

Department conducts a one week Bridge Course on Differentiation and Integratation for freshers .Department conducts a workshops ,Guest Lectures,Value added course,Inter class competetions. Students are trained to face all competitive exams. Students are trained to face interviews by conducting mock interviews.

# **ORGANIZATION STRUCTURE OF THE DEPARTMENT**

**PRINCIPAL**



**VICE PRINCIPAL**



**HEAD OF THE DEPT**



**LECTURERS**



**NON-TEACHING**

## FACULTY PROFILE

Sl No	Name of the Faculty	Designa tion	Qualification	Professional Experience		Area of Specialis ation	Member of Committee in RCASC
				RCAS C	Outs ide		
01	Ravindranath K	HOD	M.Sc,M.Phil,B .Ed(P.hD)	22	06	MHD and Theory of elasticity	BU and BCU Exam answer booklet Custodian
02	Haritha A	Asst Prof	M.Sc,M.Phil,B .Ed	12	01	Pure Mathemat ics	Internal Exam Committee, Proctor Committee
03	Thulasi Rajeev M	Asst Prof	M.Sc(P.hD)	01	03	Pure Mathemat ics	Internal assessment Committee

## Policies of the Department

- (i) Attendance:** As per Bangalore University 75% of attendance is compulsory. Those students who have less than 75% are not eligible to write the Examination.
- (ii) Internal Assessment:** Students are assessed and grades for the internal assessment are given to the students every Semester, based on the internal assessment test conducted and the assignments submitted by the students.
- (iii) Proctor system:** Since English is not a parent Department Proctor System does not exist. However Department Faculty is Proctors to students of various courses.
- (iv) Parent Teacher Meeting:** Department Faculty members are always available for consultation whenever a Parent Teacher Meeting is called by any Parent Department of the college.
- (v) Department Library:** Department has its own library. Certain reference books are issued from the Department Library. At the end of the Semester students are issued Admit Cards only after they return the books borrowed from the college Library. Students are issued books from the Department Library at the end of the semester after accepting the cost of the book as deposit.
- (vi) Projects:** Project is not part of the curriculum but we follow PBL (Project Based Learning) system for selected topics.

**(vii) Exam:** (1) Students should possess 75% attendance to take up the university exams (2) Indulging in Malpractice in any examination will automatically disqualify the student from the examination and it may result in the student being expelled from the College. (3) Lab records should be duly signed and attested by the respective incharge and HOD before the due date

**(viii) Lab instructions**

- a) Students are not allowed to carry the bags inside the lab
- b) Loitering and throwing litter in the lab is strictly prohibited
- c) Usage of mobile phones with in the lab is restricted.
- d) Usage of social networking sites are prohibited.
- e) Pen drives and external data devices are not allowed.
- f) While leaving the lab log off the systems and arrange the chairs.
- g) A student must take care of lab equipments and is expected to protect it from getting Damaged /vandalized.
- h) Do not personalize the computer settings.
- i) Do not download games, music etc.
- j) Students should carry lab observations during the lab hours.
- k) Fans and lights should be switched off after the use.
- l) Usage of internet during the lab hours is restricted.
- m) Log in with username and password given by the admin.

## **Rules and Responsibilities of Students**

1. Students must and should abide by all the rules stated in the College Manual and the respective Department Manuals.
2. If infringement of any rule is noticed student will be strictly punished.
3. Use of Cell Phones on the campus is strictly prohibited. If a student is found using the Cell Phone, the Cell Phone will be confiscated.
4. Each student shall conduct himself/herself in a manner befitting his/her association with the department.
5. He/She is expected not to indulge in any activity, which is likely to bring disrepute to the department.
6. He/She should show due respect and courtesy to the teachers, administrators of the department and maintain cordial relationships with fellow students.
7. Property or belongings of fellow students, disturbing others in their studies, adoption of unfair means during examinations, breach of rules and regulations of the college, noisy and unruly behavior and similar other undesirable activities shall constitute violation of code of conduct for the student.
8. Ragging in any form is strictly prohibited and is considered a serious offence. It may lead to his/her expulsion from the college.
9. In case of any problem, a student is expected to first meet their proctor and then Head of the Department.

## **Instructions to Parents and Guardians**

1. Parents are requested not to call their wards during college hours.
2. Parents are advised to keep track of their wards and make sure that they are attending classes regularly. So parents/guardians are requested to communicate with the proctor minimum twice in a semester
3. Parents need not wait for the call of Parent Teacher Meeting. They can walk into the Department and meet the Faculty members any time.

## **Research and Consultancy**

Department does not have any Post Graduate Course. However, students are encouraged to participate in Seminars conducted by the college or other colleges and present papers. Faculty members too, participate in Seminars/Conferences and presenting the papers.

## **Departmental Social Responsibility**

1. Department is conducting social awareness programs like visiting orphanage home and distributing books, clothes etc.
2. The department encourages the students to join NSS and serve the needy.

## Best practices

1. Remedial classes are conducted for average and below average students.
2. Previous University exam question papers are solved and assignments are given to students.
3. Each semester two internals exams and one model exam will be conducted.
4. The proctor system is maintained to take care of the students performance.
5. Guest lectures are organized consistently to improve the knowledge of the students.
6. The students are motivated and encouraged to participate in various inter collegiate competitions and sports activities.
7. Department organizes various activities like Guest Lectures, workshops, Inter class competitions, Inter disciplinary activities, Social awareness programmes, industrial visits for the students to gain knowledge.
8. The Faculties are encouraged to adopt activity, online based teaching learning methods.
9. The department library gets updated with new books according to the syllabus revision.
10. The department is in contact with alumni students and alumni meet is held. The alumni play an important role in guiding the present students.



## **VISION**

The Department aspires to the highest standards of excellence in teaching and service and to instill analytical and logical thinking among students.

## **MISSION**

- 1) To provide an environment where students can learn and become competent users of Mathematics and Mathematical applications.
- 2) To provide an understanding of mathematical thought and knowledge so that students can apply these skills in the advanced degree program and careers requiring expertise in mathematics.
- 3) To impart quality education to meet national challenges.

## **OBJECTIVE**

Mathematics is the Queen of Science. So it is applicable in many fields. The main objective of mathematics is solving hard problems taken from a wide range of disciplines, human cognition, psychology, biology, business/economics, climatology, physics, engineering so on.

## **Goal & Future plan of the Department**

- To achieve 100% results in University Exams.
- To reduce the number of Students Dropouts
- To guide the students to take up higher Studies and Research
- Conducting value added programmes
- To place the graduate students in reputed companies in collaboration with placement cell of the College
- Prepare the students to improve mathematics skills
- To conduct more activities through Mathematics Club