



RAMAIAH

College of Arts, Science
& Commerce

DEPARTMENT MANUAL

Department of Electronics

2019-2020

Contact:

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FOREWORD

The Department of Electronics takes pleasure in placing the Department manual 2019- 2020 in the hands of the students of the department, their parents and other stakeholders. We earnestly hope that the manual is useful and informative to all who use it.

The manual provides details about the course, the department, the faculty, the students, the convergence of all these towards trying to create human resource of good caliber for the country. In the process, the college, the department and the students are taken towards excellence, because every ongoing day is a day of learning not only for the students but also for the college and its academic community.

There are several instances of University Rank holder and centum mark scorer in this course.

As we welcome you, we wish you to march towards success during your stay in the college.

Dr. Prathiba V Kalburgi
Head of the Department,
Department of Electronics

TABLE OF CONTENTS

S No.	Title	
1	Introduction	
2	Courses Offered	
3	Flexibility and Enrichment	
4	Organization of the Department	
5	Faculty Profile	
6	Policies of the Department	
7	Rules and Responsibilities of the Students	
8	Instructions to parents and guardians	
9	Research and Consultancy	
10	Department Social Responsibility	
11	Interdepartmental collaborations	
12	Best Practices	

INTRODUCTION

The college was founded by illustrious Dr M S Ramaiah and it is now under the governance of the Directors, Honorable Sri M R Janakiram, Honorable Sri M R Kodandaram, Respected C E Sri S M Acharya and the Principal Dr Sakuntala Samuelson. The department was established in the year 1994 as Physics department. The department now offers under graduate course (BSc) in Electronics. The course follows the semester pattern prescribed by the Bangalore University. The duration of the course is three years that is divided into six semesters. The curriculum followed is as per the revised (2009) syllabus of Bangalore University. The odd semester starts roughly from June and the even semester starts from January normally, however there can be changes as per the Bangalore University schedule. Each semester must have minimum ninety working days. There are two internal examinations in each semester. The semester long schedule about the classes, exams, the syllabus, the books etc are provided to the students in the beginning of the semester.

In accordance with the revised syllabus, laboratory and library have been updated. In addition to the Central library, department library lends books to the students. The department has got well established spacious laboratories to provide good lab facility. The BSc course is designed to prepare individuals who are technically sound and capable of fitting into the modern IT and Electronics environment in the present industry scenario. The course provides the individual with a solid technical background and real time experience on tools to handle the most demanding aspects of electronic systems. The course requires students to learn about electronic circuits, data structures, algorithms, programming languages and Mathematics. The course tries to prepare every student on the latest in technology relating to the immediate industry scenario. The practical exposure with the right dosage of theory ensures the student is molded to the optimum level of knowledge and skills. The course provides an opportunity to hone the mathematical skills and hence in developing an analytical mind to the students.

Good placement opportunities are provided for the students in various companies. Department organized various industrial visits to BHEL, Vainu bappu observatory at Kavalur, Raman research centre, IISc etc. Several students who have passed out are working in various companies like Wipro, Infosys, SLK software ltd, Tech Mahindra, HCL, Indian Institute of wood and Science technology, I gate etc. Some are pursuing their higher studies in various good institutions in India and abroad. Present final year students are placed in various companies like Wipro, I gate, CSC, IBM etc.

An Add on course on signal processing and its application was conducted for second year students and certificates were issued for the same during 2019.

COURSE OFFERED

The BSc (E,M,Cs) course has following subjects (Including Electronics):

Semester	Syllabus for the year 2019-2020
I	LANGUAGE Kannada/Sanskrit/ Hindi/ Additional English
	General English
	Basic Electronics I
	Mathematics I
	Computer Science I – Programming concept in C
	Electronics practical I
	C Programming lab
II	LANGUAGE Kannada/Sanskrit/ Hindi/ Additional English
	General English
	Electronics II-Electronic circuits and special purpose devices
	Mathematics II
	Computer Science II- Data structures in C
	Computer Fundamentals
	Electronics practical II Data structure lab
III	LANGUAGE Kannada/Sanskrit/ Hindi/ Additional English
	General English
	Electronics III – Linear Integrated circuits and C programming
	Mathematics III
	Computer Science III- DBMS
	Indian Constitution
	Linear Integrated and C programming lab DBMS lab
	LANGUAGE Kannada/Sanskrit/ Hindi/ Additional English
	General English
	Electronics IV – Digital Electronics and Verilog

IV	Mathematics IV
	Computer Science IV –Operating system and UNIX
	Environmental Science
	Digital Electronics Lab
	UNIX Programming Lab
V	Electronics V- Electronic Communication I
	Electronics VI- Microprocessors and Electronic Instrumentation
	Mathematics V
	Mathematics VI
	Computer Science V – Object oriented programming JAVA
	Computer Science VI – Visual basic programming
	Communication Practical I
	Microprocessor practical
	Java lab
	Unix lab
VI	Electronics VII – Communication-II
	Electronics VIII – Microcontrollers
	Mathematics VII
	Mathematics VIII
	Computer Science VII – Web Programming
	Computer Science VIII -Computer Network
	Communication-II/Microcontroller Lab
	Electronics project lab
	Computer Science project lab

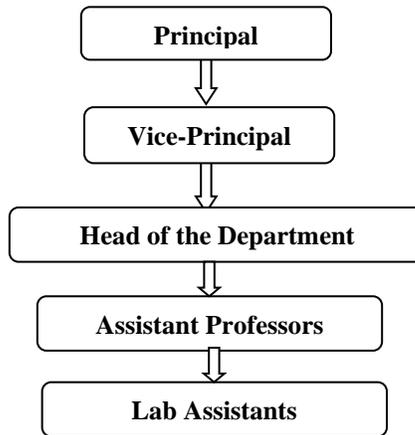
FLEXIBILITY AND ENRICHMENT

It is the practice of the department to offer Add-on course to provide enrichment. Courses on MATLAB, IDE using Microcontroller programming, Signal processing lab are examples of such Add-on courses. The curriculum followed is prescribed by the Bangalore University and in the BSc course there are no optional subjects. Hence flexibility of optional subjects is not provided. However, flexibility with respect to the duration of completing the BSc is provided, especially for slow learners. Guest lectures are conducted to expose the students to renowned resource persons. In the sixth semester, the students should prepare a working electronic project. The

project adds enrichment as it instills skill, knowledge and ability to work in teams. The department organizes visits to places of relevance for electronics, thereby providing enrichment.

ORGANISATION OF THE DEPARTMENT

The organization of the department is as follows:



FACULTY PROFILE

S no	Name of the faculty	Designation	Qualification	Area of Specialization	Member of committee in MSRCASC
1	Dr. Naveen Kumar.R	Assistant Professor	MSc, PhD	Digital signal/Image processing	Magazine committee
2	Mrs. Muthusivagami.R	Assistant Professor	M.E	Digital Electronics/Machine learning	Internal assessment committee
3	Mrs. Kavya E	Assistant Professor	M.Tech	Digital signal processing	Internal assessment committee

POLICIES OF THE DEPARTMENT

- **Attendance:** According to Bangalore University norms, 75% attendance is mandatory for the students to take Bangalore University examinations. In case of health problems, medical certificate from a recognized doctor should be submitted on time and attendance will be considered accordingly.
- **Internal Assessment:** According to Bangalore University rule, grade is allotted to students in all individual subjects. Two internal tests are conducted in every semester. Equal weightage is given to attendance and internal marks in deciding the Internal assessment grade. Accordingly grades are allotted to students.
- **Proctor System:** The department facilitates the students through the proctor system. The proctor is a faculty and about thirty five students are under the proctorship of a faculty. The proctor can be approached by the students for help or guidance. The letters are posted to parents or guardian once in every semester regarding the student's performance and attendance. Phone calls are made to parents or guardian, if need arises.
- **Parent teacher meeting:** It is the practice in the department to conduct parent teacher meeting once in every semester. Parents or guardian are requested to meet the respective proctor without fail. They are further requested to make phone call to respective proctor or HOD to know the student's performance.
- **Department Library:** Department has a library with more than 100 books. In addition to central library, the department library also lends books to the students for a span of two weeks.
- **Instructions regarding the lab:** Department has a well equipped laboratory and is updated according to the requirement of the syllabus. The department has two computers with Internet facility. The equipments include CRO, Oscillator, Microprocessor and Microcontroller kits, Verilog FPGA kit etc. Lab manuals are prepared by the department and are provided to the students during practical sessions. The soft copies of the same are available on line. The students are responsible for the instruments while doing the experiment. If any instrument is damaged the respective student should bear the repair cost.
- **Projects:** The students undertake projects in Electronics during their sixth semester. The projects are guided by the department faculty. The projects are based on microcontroller,

microprocessor, verilog and Integrated circuits. Some projects are presented by the students during Inter collegiate Electronic fests.

- **Examinations:** The Practical and theory exams will be conducted according to Bangalore University norms. The theory carries 70 marks and practical exam carries 30 marks.

RULES AND RESPONSIBILITIES OF THE STUDENTS

The students have to strictly follow the rules of the college. In addition the department has rules, which the students have to follow.

- Punctuality should be maintained.
- 75% attendance is mandatory for the students.
- Discipline should be maintained in the laboratories.
- Usage of mobile phones is strictly prohibited in the college premises.
- Lab equipments should be handled by the students carefully during lab hours.
- If any instrument is damaged the respective student should bear the cost.
- Assignments have to be submitted on time.
- The books borrowed from the department library should be returned on time.
- Students should behave in a proper manner within the college campus.

INSTRUCTIONS TO PARENTS AND GUARDIANS

- ❖ The parents or guardians should be aware of their ward's progress in academic and non academic activities.
- ❖ The response for the proctor letters should be sent by the parents or guardians in the form of acknowledgement.
- ❖ The parents or guardians should visit the department once in every semester or a phone call should be made to the respective proctor or HOD to know their ward's progress.
- ❖ The annual fee payment should be made within the specified time.
- ❖ Parents are requested to send students to college on reopening day after vacation and not in delayed manner.

- ❖ Insist for a receipt from the college whenever your ward makes payment to the college.
- ❖ Written permission for the study trips from the parents is essential.

RESEARCH AND CONSULTANCY

Dr. Naveen Kumar.R

Consultancy in the form of guidance and information has been provided in connection with electronic minor projects and in the research works have been presented as papers and posters. His expertise has been sought in medical signal/image processing and currently working on ‘Glioblastoma multiform brain tumor segmentation and quantification’.

DEPARTMENT SOCIAL RESPONSIBILITY

- Department has corresponded with organizations that collect Electronic waste and it tries to create awareness among the college community.
- Department is regularly conducting social awareness programs like Ozone protection layer, Cancer awareness program.
- The department encourages the students to join NSS and serve the needy.
- Electronic projects that relate to environment have been carried out.

INTER DEPARTMENTAL COLLABORATION

The department is in collaboration with other departments like computer science, Indian constitution, Environmental science departments. The electronics lab benefits the BCA students every year.

BEST PRACTICES

The department best practices are:

- The students are motivated and encouraged to participate in various inter collegiate competitions and sports activities, thereby leading to prizes.
- The Faculties are encouraged to adopt activity, online based teaching learning methods.
- Guest lectures are organized consistently to improve the knowledge of the students.
- Academically weak students are identified and coaching classes are conducted for them.
- Department organizes various industrial visits for the students to gain knowledge.
- Add - on courses are conducted for students.
- The students are encouraged to build their own ideas in constructing Electronic mini projects.
- The department tries to create awareness among the people regarding the e waste management.
- The department library gets updated with new books according to the syllabus revision.
- 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

- To attain the status of center of excellence in the field of Electronic Science and allied fields.

MISSION

- To impart quality education to meet national challenges.
- To blend theoretical knowledge with practical skills.
- To serve society by delivery, promotion and advancement of education in the field of Electronics.

OBJECTIVE

- To familiarize the fascinating world of Electronic technology to young minds.
- To develop skill and knowledge in the field of Electronics in the learners.
- To inculcate good human values and necessary soft skills along with curriculum.
- To help the learners in transforming to multifaceted personalities