

# DEPARTMENT OF COMPUTER APPLICATIONS

## FACULTY OF SCIENCE

### BACHELOR OF COMPUTER APPLICATIONS

### Prospectus and Admission Guidelines Academic Year 2022-23



**THE MAHARAJA SAYAJIRAO UNIVERSITY OF BARODA  
VADODARA-390002, GUJARAT, INDIA**



**H. H. Maharaja Sayajirao Gaekwad-III**

## **MISSION STATEMENT**

**Vision and mission as perceived by  
H. H. Maharaja Sayajirao Gaekwad-III**

*“The progress of a nation requires that its people should be educated. Knowledge is a necessity of man. It instills in him a desire to question and to investigate, which leads him on the path of progress. Education, in the broadest sense, must be spread everywhere. Progress can only be achieved by the spread of education. Cooperation is necessary to achieve any worthy end and this readiness to cooperate will not be found in people if they are not educated.*”

# From the Head's Desk

Addressing the grave need of quality education in Computer Applications, Faculty of Science introduced a 3 years UG Programme viz. BCA (Bachelor of Computer Applications) in the year 2000 on a higher payment basis. As, the demand continued to grow in the IT, so keeping in tune with time the department introduced a full time 2 years post graduation programme M.Sc. (IT), in the year 2017. The programme covers all the current and emerging areas in the field of Information Technology.

The department has three fully equipped computer laboratories with a total capacity of 120 computers. It has its own departmental library with a rich collection of book, journals and periodicals. Class rooms of department are equipped with all the facilities for teaching. Department has been dedicated to facilitating increased opportunities for cross disciplinary, inter disciplinary and Trans disciplinary fields of computing.

I welcome you all on behalf of the department and my own behalf to join the journey of becoming a computer professional and to be potential candidate for various job opportunities in the most demanding carrier of current times.

Best wishes for you're all the academic endeavours.

Thanking you.

Prof. Prashant K. Mehta  
Head (Offg.)

Department of Computer Applications

Dr. Keyur N. Vyas  
Assistant Director  
Department of Computer Applications

# The University

The Maharaja Sayajirao University of Baroda, formerly known as the Baroda College, was founded by Late His Highness Shrimant Maharaja Sayajirao Gaekwad of Baroda in the Year 1881. The efforts of establishing a University at Baroda were also initiated by him in 1908. Although Shrimant Sayajirao Gaekwad conceived a residential university at Baroda, it became a reality only during the rule of Late His Highness Shrimant Pratapsinhrao Gaekwads. The Maharaja Sayajirao University of Baroda came into existence on 29th April 1949.

## Faculty of Science

With the formation of the university, The Silver Jubilee Science Institute, a part of the Baroda College, was reconstituted as the Faculty of Science. Foundation stone of the Silver Jubilee Science Institute was laid by Sir Issac Rufus, then Viceroy and Governor General of India, in the year 1926 and the construction was completed in 1933.

Since 1949, the Faculty offers courses leading to B. Sc., M. Sc. and Ph. D. degrees in Botany, Chemistry, Geography, Geology, Mathematics, Physics, Statistics and Zoology. The Faculty added thereafter two more Departments: Departments of Biochemistry and Microbiology, both of which provide postgraduate programmes to students. From year 2000, faculty started offering self financed programmes at both UG and PG level. The Faculty has made significant strides in various disciplines of science that attracts students from all over India and other countries and it is a cosmopolitan centre of education.

## Department of Computer Applications

Addressing the grave need of quality education in computer applications at undergraduate level in the Country in general and Gujarat in particular, Faculty of Science introduced 3 year undergraduate Programme leading to Bachelor of Computer Applications (BCA) degree in year 2000 on a higher payment basis. In the last 17 years, since its inception, the programme has earned a very good reputation in the state of Gujarat and is regarded as the most advanced BCA programme in this part of the country. From year 2010 the BCA programme has been restructured according to Choice Based Credit System (CBCS). In the same year M.Sc. ST programme was introduced at PG level.

In year 2017 Faculty of Science introduced M. Sc. In Information Technology, that is specially designed for the graduates in computer/IT discipline in CBCS pattern. This programme has also been received very well by the student's community and local software industry.

In order to provide the platform to strengthen the existing academic programs and to initiate and promote research activities in the field of Computer Applications, University established Department of Computer Applications through a senate resolution in 2013. The aims and objectives of this department are given below:

To provide platform to strengthen the existing two academic programmes and to start new programmes in the field of computer applications. To undertake and promote research activities in computer applications and related areas. To obtain grants from funding agencies for various academic/ research initiatives. To support the education of computer science in the faculty as well as University. Intends to support development and maintenance of software intensive systems for automation of services and operations of Faculty and University.

# BCA

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## ADMISSION PROCEDURE

The application form is to be filled online only. A student willing to apply for more than one bachelor Programs should submit separate application for each and **the application form fee in such cases will have to be paid separately for each course/program.** The students who have applied and fulfill the criteria of **minimum qualifications for eligibility** can appear in the entrance examination. A **written Entrance Test will be conducted for deciding admission to each programme. The admissions will be strictly based on the merit of marks obtained in written Entrance Test.**

### Maximum intake

**144** seats at Department of Computer Applications, Faculty of Science, University main campus.

**Note:** Out of 144 seats, 24 seats will be offered in Higher Payment NRI Sponsored/Special Category only)

**120** seats at M.K. Amin Arts, Science and Commerce College, Padra

## ELIGIBILITY CRITERIA

**Following eligibility criteria is to be fulfilled:**

1. A candidate must have qualified H.S.C. (General/ Science/ Vocational) Examination or equivalent examination in the current academic year or up to three years prior to the current academic year with regular mode and having **English** as one of the subjects.

**The minimum marks/ grade points in qualifying examination shall be as follows:**

**i. For General category candidates:**

**40% aggregate marks or equivalent grade points. 5% relaxation in aggregate marks or equivalent grade points for SEBC candidate.**

**ii. For SC/ST candidates:**

Must have passed qualifying examination.

2. Candidates who have appeared for final year of the qualifying examination may also apply and appear in the Entrance Test. However, their admission will be confirmed only on the submitting original marksheet of the qualifying examination and fulfillment of eligibility requirement, at the time of Admission.



# CRITERIA FOR CASTE-WISE RESERVATION AND OTHER QUOTA

**Government of Gujarat rules for the reservation quota will be applied: SC: 7%, ST: 15%, SEBC: 27%, General: 51%.** All original certificates should be produced at the time of document verification and admission.

- a) If any relevant certificate is not produced at the time of admission, the student will NOT be considered for particular reservation category.

**A student, irrespective of her/his reservation category, for admission, will be first considered for GENERAL category.**

- b) The **SC and ST students of other than the Gujarat state** should produce a certificate from competent authority of Government of Gujarat if their original certificate DO NOT indicate that their caste / Tribe is recognized under such category in Gujarat also.
- c) The **SEBC category** are required to produce a valid **non creamy layer certificate** from competent authority .
- d) There will be **10 %** supernumerary seat (**additional seats over and above the total number of seats**) reservation of the total seats for **Economically Weaker Sections (EWS) of Gujarat**. Within this 10% quota, **33%** seats shall be further sub-reserved for female students belonging to the same Economically Weaker Sections.
- e) **Reservation for physically disabled students: 5%** seats of the total seats (to be included under each different category with in the limit of total reservation under a particular reservation category like SC/ST/SEBC/GEN) are reserved for the persons with benchmark disability in accordance with the provisions of the section 32 of the rights of persons with Disabilities ACT, 2016. They should produce a **current/recent year certificate of Civil Surgeon** stating the type of disability, extent (%) of disability and state (Progressive/ non-progressive) of disability. Only those students who have **minimum 40% disability** are eligible to be considered for the reservation.
- f) **Reservation for Defence & Ex/In- Servicemen: 1%** seats of the total seats (to be included under each different category with in the limit of total reservation under a particular reservation category like SC/ST/SEBC/GEN) are reserved for wards of Defence & Ex/In-Servicemen.
- g) **Reservation for Kashmiri Migrants: 1% supernumerary seat reservation quota** (Additional seats, **NOT** included under each different category with in the limit of total reservation under a particular reservation category like SC/ST/SEBC/GEN).
- h) **Advantage to Sports Persons:** Please note that the benefit to sports persons is granted **ONLY** if the student has participated/ awarded medals in State level or higher level competitions.
  - i. Students who participated at State level: **3%** marks to be added to their eligibility marks

- ii. Students who won medal at State level or participated at National level: **5%** marks to be added to their eligibility marks

Students who have won medal at National level or participated / won medal at International level: to be granted **Direct admission**.

- i) **Reservation for wards of MSU Staff: 01% supernumerary seat reservation quota** (Additional seats, **NOT** included under each different category with in the limit of total reservation under a particular reservation category like SC/ST/SEBC/GEN) **only in Regular Payment Fee Category** for the wards of the permanent or temporary employees of The Maharaja Sayajirao University of Baroda. They should produce relevant documents at the time of admission.
- j) If the **seats remain vacant** after stipulated admission rounds in the SC or ST reservation categories, then these seats can be **interchanged** among SC and ST.
- k) **After granting admission to all the students of any reserve category on respective reserve seats, if the reserved category seats remain vacant then these seats shall be transferred to General (Unreserved) category seats.**

**Supernumerary seats which remain vacant shall NOT be transferred to any other category.**

**Admission Fees is to be paid through online mode only.**

**CASH/CHEQUE OR ANY OTHER MODE OF TRANSACTION NOT ACCEPTED**

## **INSTRUCTIONS TO THE CANDIDATES**

1. **The admissions will be strictly based on the merit of the entrance test.**  
Just fulfilling the eligibility criteria DOES NOT GUARANTEE admission.
2. The admission to the course is PROVISIONAL and subjected to various scrutinies till the unique Permanent Registration Number (PRN) of the candidate is generated.
3. **If the information provided by the candidate is incorrect or if any unfair practice is followed or the candidate is unable to submit any of the required certificates in the stipulated time period, his/ her admission is liable to cancellation.**
4. **Maintenance of Stipulated Attendance of Students (Ordinance 183)** The following shall be the minimum attendance necessary:
  - a. In a semester an overall attendance of **at least 80%** of the number of lectures delivered and tutorials, seminars etc. arranged in all subjects.
  - b. In a semester an overall attendance of **at least 80%** of the days allotted for practical classes and laboratory work in each subject.
5. General rules governing the conduct of students in the university:
  - i. A student must do nothing either inside or outside the University that will



interfere with its orderly working and discipline.

- ii. This comprehensive rule covers most cases that are likely to arise. It forbids:
  - a. Impolite or unseemly behavior in classroom or University premises during working hours of the College and the Faculty.
  - b. Attempt to persuade other students to abstain themselves from regular classes.
  - c. Damage to or defacement of University furniture, fittings and property.
  - d. Disobedience of notifications or instructions issued by the Principals/Deans/Heads of the Departments and Members of the staff duly authorized.
- iii. As per UGC regulation, stipulated attendance (Ordinance 183) is required for permitting students to appear for final examination. If unavoidably absent on account of health, urgent private affairs or other reasons, they must be prepared to state the exact reason for absence.
- iv. Students are expected to behave with courtesy towards the members of the staff, their fellow students and all visitors to the Institution.
- v. Sexual harassment will lead to severe punishments like suspension, rustication from the University / College/ Institution. Disciplinary action is as prescribed under The M. S. University of Baroda rules.
- vi. Ragging is prohibited on MSU Campus, ragging is a criminal offence and is liable to severe punishment, including suspension, rustication and imprisonment.
- vii. **Compulsory Thalassemia Blood Screening:** Thalassemia blood testing is made compulsory by Government of Gujarat. Final Eligibility of any student for admission to any course to this University will be granted ONLY after she/ he submits report of the Thalassemia blood screening. Students are encouraged to get the test done and submit the report at the time of Admission. Those students who already have a Thalassemia Test Report done earlier, need not get it done again. They can submit copy of earlier report.

## GRADE POINT SYSTEM

- A system comprising of 7 grade points (4 to 10) will be followed for evaluating a

candidate in every course. Both mid-semester and end-semester exams are counted for final grade points.

Grade Points	Description	Percentage of Marks	Division/Gr Ade	Range
10	Outstanding	90% - 99%	First / O	Above 9.01
9	Excellent	80% - 89%	First / A	8.01 – 9.00
8	Very Good	70% - 79%	First / B	7.01 – 8.00
7	Good	60% - 69%	First / C	6.01 – 7.00
6	Fair	50% - 59%	Second /D	5.01 – 6.00
5	Average	40% - 49%	Pass / E	4.01 – 5.00
4 – 0	Dropped	Below 40%	F	Below 4.00

CGPA	Class
CGPA < 4	Fail
4 = CGPA < 5	Pass Class
5 = CGPA < 6	2nd Class
6 = CGPA < 7	1St Class
CGPA ≥ 7	Distinction

**Grade Point Average =  $\sum (\text{Credit X Grade Point}) / \text{Total Credits}$**

## **AWARD OF CLASS**

Marks-sheets of semester I to V of BCA will simply indicate result as either Pass or Fail or ATKT but not the class which will be indicated in the last Semester mark sheet.

Cumulative Grade Point Average (CGPA) is computed as:

**$CGPA = \sum (\text{Semester credits X GPA}) / \text{Total Semester Credits}$**

The sum is taken over from Sem-I to Sem-VI for BCA

## **CRITERION FOR BCA DEGREE AWARD**

For obtaining BCA degree, a candidate has to earn minimum 145 credits in all during the programme.

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# Syllabus for the Entrance Test

- I. The question paper of the entrance test will be in English and Gujarati languages.  
Candidates will be allowed to answer in either language.
- II. All questions will be of multiple-choice type.
- III. There is negative marking. Each correctly answered question carries 2 marks, and wrongly answered question carries – 0.25 marks.

The syllabus for the entrance test would be as follows:

Section	Syllabus	Weightage
Aptitude	Ratio-Proportion, Trigonometry, Height & distances, Area-Volume, HCF & LCM , Profit and Loss , Averages, Roots & Percentages, Partnerships, Simple Interest and Compound Interest, Time and Distance	25
Logical Reasoning	Series Completion, Coding and Decoding, Blood Relation, Analogy	25
English Language	Synonyms and Antonyms, Fill in blanks, comprehension, Sentence Correction	15
Computer Awareness	MS Office (Word, Excel, PowerPoint), Internet Basics, basics of hardware and software	20
General Awareness		15
Marks		100
<b>Reference:</b> <ol style="list-style-type: none"><li>1. A Modern approach to logical reasoning. R.S. Aggarwal S.Chand Publishing</li><li>2. Quantitative Aptitude for Competitive Examination. R.S. Aggarwal S.Chand Publishing</li><li>3. A Modern Approach to Verbal &amp; Non-Verbal Reasoning R.S. Aggarwal S.Chand Publishing</li><li>4. Basic Computer Course Made Simple, BPB Publications.</li></ol>		

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# Outline of the BCA Program

The Programme has been designed with the help of professionals in the software industry. During the first two semesters' students will learn fundamental concepts in computer science. In semesters 3 & 4, the students will be equipped with more specific skills in computer applications. In each of the last three semesters, student will be required to take up a project work by associating himself/herself with some organization, wherein he/she will undergo a practical training. They have to prepare a dissertation report on the project work and get it approved by project committee. Time to time syllabus is critically reviewed and necessary changes are incorporated by experts in the field. Details of the courses taught currently are given below along with respective credits

## The Teaching Programme

The BCA (Hons.) Programme is designed as per choice based credit system. The BCA (Honors) degree requires minimum **145** credits to be earned. The teaching programme is divided into 6 semesters. In each semester student is required to choose three types of courses, viz. Core courses, Elective courses, and Foundation courses, as per the details given below:

Semester	Credits in Semester	Year	Total Credits in Year
I	23	1	49
II	26		
III	24	2	48
IV	24		
V	24	3	48
VI	24		
		Total:	145

### Credit System

- One hour of classroom teaching or two hours of Laboratory teaching/ field work/ dissertation work per week for a semester of 15 weeks duration is considered 1 course credit.
- In this system, every course has fixed credits assigned to it. If a student obtains minimum 4 grade points in a course, he/ she earn the credits assigned to that course.
- A student becomes eligible for the degree only when he/ she have earned 145 credits.

# Program Structure

Course Code	Type	Semester – I	Credits
BCA1115C07	Core	HTML Lab	2
BCA1109C01	Core	Computer Organisation	2
BCA1110C02	Core	Operating Systems	3
BCA1111C03	Core	Introduction to Programming using Python	3
BCA1113C05	Core	PC Software lab	1
BCA1114C06	Core	PC Database Lab	2
BCA1112C04	Core	Introduction to Programming using Python lab	2
BCA1116F01	Foundation	Mathematical Foundations-I	2
BCA1117F02	Foundation	Communication Skills	2
	Elective	<b>Generic Elective Courses*</b>	4
<b>Credits Calculation</b>		<b>Generic Elective</b>	<b>4</b>
		<b>Foundation</b>	<b>4</b>
		<b>Core</b>	<b>15</b>
		<b>Grant Total</b>	<b>23</b>

\* To be selected from Generative Elective Pool-1

Course Code	Type	Semester – II	Credits
BCA1211C08	Core	Object Oriented Programming	3
BCA1213C10	Core	Data Structures and Algorithms	3
BCA1217C14	Core	Database Management Systems	2
BCA1215C12	Core	SQL	2
BCA1212C09	Core	Object Oriented Programming Lab	2
BCA1214C11	Core	Data Structures Lab	2
BCA1216C13	Core	SQL Lab	2
BCA1218F03	Foundation	Mathematical Foundation-II	2
BCA1219F04	Foundation	Environmental Science	2
	Elective	<b>Generic Electives**</b>	6
<b>Credits Calculation</b>		<b>Generic Elective</b>	<b>6</b>
		<b>Foundation</b>	<b>4</b>
		<b>Core</b>	<b>16</b>
		<b>Grant Total</b>	<b>25</b>

\*\* To be selected from Generative Elective Pool-2

Course Code	Type	Semester – III	Credits
BCAXXXXX	Core	<b>Core Elective-1*</b>	4
BCA1309C01	Core	Shell Programming	2
BCA1311C03	Core	Database Application and Programming	2
BCA1313C05	Core	Computer Networks-I	3
BCA1312C04	Core	Database Application and Programming Lab	2
BCAXXXXX	Core	<b>Core Elective-1 Lab</b>	2
BCA1310C02	Core	Shell Programming Lab	1
BCA1313C05	Core	Computer Networks-I Lab	1
BCA1320F01	Foundation	Exploratory Data Analysis	2
BCA1321F02	Foundation	Exploratory Data Analysis Lab	1
		<b>Generic Electives**</b>	4
<b>Credits Calculation</b>		<b>Elective</b>	<b>4</b>
		<b>Foundation</b>	<b>3</b>
		<b>Core</b>	<b>17</b>
		<b>Grand Total</b>	<b>24</b>

\* To be selected from Core Elective Pool-1

\*\*To be selected from Generic Elective Pool-3

Course Code	Type	Semester - IV	Credits
BCAXXXXX	Core	<b>Core Elective-2*</b>	<b>4</b>
BCA1408C01	Core	Web Technology	3
BCA1410C03	Core	Software Engineering-I	3
BCA1411C04	Core	Computer Networks-II	3
BCAXXXXX	Core	<b>Core Elective-2 Lab</b>	<b>2</b>
BCA1409C02	Core	Web Technology Lab	2
BCA1412C05	Core	Computer Networks-II Lab	1
BCA1417F01	Foundation	Business Modeling Project	1
BCA1418F02	Foundation	Soft Skills	1
	<b>Elective</b>	<b>Generic Electives**</b>	<b>4</b>
<b>Credits Calculation</b>		<b>Generic Elective</b>	<b>4</b>
		<b>Foundation</b>	<b>2</b>
		<b>Core</b>	<b>18</b>
		<b>Grand Total</b>	<b>24</b>

\* To be selected from Core Elective Pool-2

\*\* To be selected from Generic Elective Pool-4

Course Code	Type	Semester - V	Credits
BCA1410C03	Core	Software Engineering-II	4

BCA1502CT	Core	Software Testing	2
BCA1503CL	Core	Software Testing Lab	2
BCA1504CL	Core	Mini Project	2
BCAXXXXX	Core	Discipline Specific Elective*	6
BCAXXXXX	Core	Discipline Specific Elective**	6
BCAXXXXX	Elective	Generic Elective ***	2
<b>Credits Calculation</b>		<b>Generic Elective</b>	<b>2</b>
		<b>Discipline Specific Elective</b>	<b>12</b>
		<b>Foundation</b>	<b>0</b>
		<b>Core</b>	<b>10</b>
		<b>Grand Total</b>	<b>24</b>

\* To be selected from Discipline Specific Elective Pool-1

\*\* To be selected from Discipline Specific Elective Pool-2

\*\*\* To be selected from Generic Elective Pool-5

<b>Course Code</b>		<b>Semester - VI</b>	<b>Credits</b>
BCAXXXXX	Core	Major Project/Internship	24

## Electives

<b>Generic Electives Pool -1</b>			
<b>Course Code</b>	<b>Elective Courses</b>	<b>Credits</b>	<b>Pre- Requisite</b>
BCA1018E01	Basic Electronics	2	
BCA1019E02	Fundamentals of Accounting	2	
BCA1020E03	Basics of Computer Hardware	2	
BCA1021E04	Disaster Management	2	
BCA1022E05	Desktop Publishing	2	

<b>Generic Electives Pool-2</b>			
<b>Course Code</b>	<b>Elective Courses</b>	<b>Credits</b>	<b>Pre- Requisite</b>
BCA1018E01	Basic Electronics	2	
BCA1019E02	Fundamentals of Accounting	2	
BCA1020E03	Basics of Computer Hardware	2	
BCA1021E04	Disaster Management	2	
BCA1022E05	Desktop Publishing	2	
BCA1023E06	Computerized Accounting	2	Fundamental of Accounting
BCA1024E07	Microprocessor 8085	2	Computer Organization
BCA1026E08	Microprocessor 8085 Lab	1	Computer Organization
BCA1027E09	Fundamentals of Management	2	

<b>Generic Electives Pool -3</b>			
<b>Course Code</b>	<b>Elective Courses for odd</b>	<b>Credits</b>	<b>Pre- Requisite</b>

	<b>semester</b>		
BCA1023E06	Computerized Accounting	2	Fundamental of Accounting
BCA1027E10	Programming using C and C++	2	
BCA1028E11	Programming using C and C++ Lab	2	
BCA1027E09	Fundamentals of Management	2	
BCA1025E12	Discrete Mathematics	2	
BCA1026E13	Web Publishing Lab	2	Desktop publishing

<b>Core Elective Pool- 1</b>			
<b>Course Code</b>	<b>Courses</b>	<b>Credits</b>	<b>Co-Requisite</b>
BCA1317A02	Java Programming	4	Java Programming Lab
BCA1318A01	.Net Programming in C#	4	.Net Programming in C# Lab
BCA1317A02	Java Programming Lab	2	Java Programming
BCA1319A02	.Net Programming in C# Lab	2	.Net Programming in C#

<b>Generic Electives Pool -4</b>			
<b>Course Code</b>	<b>Elective Courses for even semester</b>	<b>Credits</b>	<b>Pre- Requisite</b>
BCA1025E12	Discrete Mathematics	2	
BCA1026E13	Web Publishing Lab	2	Desktop publishing
BCA1029E14	Numerical Methods	2	
BCA1030E15	Introduction to Multimedia Lab	2	
BCA1031E16	Cyber Law	2	
BCA1032E17	Inventory Management	2	

<b>Core Elective Pool- 2</b>			
<b>Course Code</b>	<b>Courses</b>	<b>Credits</b>	<b>Pre- Requisite</b>
BCA1413A01	Advanced Java Programming	4	Java Programming
BCA1415A01	Advanced .Net Programming	4	.Net Programming in C#
BCA1414A02	Advanced Java Programming Lab	2	Java Programming Lab
BCA1416A02	Advanced .Net Programming Lab	2	.Net Programming in C# Lab

<b>Discipline Specific Elective Pool-1 (Sem V)</b>			
<b>Course Code</b>	<b>Elective Courses for even semester</b>	<b>Credits</b>	<b>Pre- Requisite</b>



BCA1501ET	Mobile Application Development	4	
BCA1501EL	Mobile Application Development Lab	2	
BCA1502ET	Web Application Development	4	
BCA1502EL	Web Application Development Lab	2	

<b>Discipline Specific Elective Pool-2 (Sem V)</b>			
<b>Course Code</b>	<b>Elective Courses</b>	<b>Credits</b>	<b>Pre- Requisite</b>
BCA1503ET	Computer Graphics	4	
BCA1503EL	Computer Graphics Lab	2	
BCA1504ET	Application Frameworks in Java	4	Advanced Java Programming
BCA1504EL	Application Frameworks in Java Lab	2	
BCA1505ET	Application Frameworks in .Net	4	Advanced .Net Programming
BCA1505EL	Application Frameworks in .Net Lab	2	
BCA1506ET	Network Administration	4	
BCA1506EL	Network Administration lab	2	
BCA1507ET	Oracle DBA	4	
BCA1507EL	Oracle DBA Lab	2	
BCA1508ET	SQL Server DBA	4	
BCA1508EL	SQL Server DBA Lab	2	
BCA1509ET	Multimedia Programming	4	
BCA1509EL	Multimedia Programming Lab	2	
BCA1510ET	Data warehousing and Data Mining	4	
BCA1510EL	Data warehousing and Data Mining Lab	2	
BCA1511ET	System Simulation	4	
BCA1511EL	System Simulation Lab	2	
BCA1512ET	Unix Systems Programming	4	
BCA1512EL	Unix Systems Programming Lab	2	
BCA1513ET	Elements of Theory of Computation	4	
BCA1513EL	Elements of Theory of Computation Lab	2	
BCA1514ET	Mobile Application Development	4	
BCA1514EL	Mobile Application Development Lab	2	
BCA1515ET	XML and Related Technologies	4	
BCA1515EL	XML and Related Technologies	2	

	Lab		
BCA1516ET	Artificial Intelligence	4	
BCA1516EL	Artificial Intelligence Lab	2	
BCA1517ET	Algorithms Design and Analysis	4	
BCA1517EL	Algorithms Design and Analysis Lab	2	
BCA1518ET	Web Application Development	4	
BCA1518EL	Web Application Development Lab	2	
<b>Generic Elective Pool - 5</b>			
<b>Course Code</b>	System Simulation Lab	<b>Credits</b>	<b>Pre- Requisite</b>
BCA1519ET	Numerical Methods	2	
BCA1520ET	Introduction to Multimedia Lab	2	
BCA1521ET	Cyber Law	2	
BCA1522ET	Inventory Management	2	
BCA1523ET	Project Management	2	
BCA1524ET	Human Resource Management	2	
BCA1525ET	Customer Relationship Management	2	
BCA1526ET	Optimization Techniques	2	

**Note:**

- (i) **Course structure may change as per NEP 2020.**
- (ii) Elective papers will be offered depending on the availability of faculty
- (iii) The University reserves right to add or delete elective papers from the above list as well as change their course code.

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# Facilities

## The Faculty

The experienced teachers from the university and professionals from the IT industry are involved in teaching the courses. This help in providing the academic excellence with professional expertise to the students of the programme. In addition the reputed personalities from all over the country will be invited to deliver lectures from time to time.

## Computer Laboratory

Well-equipped computer laboratories are available to the students of the BCA programme. All the computers in these laboratories have high configuration and are connected to a LAN, which provides a networked environment to the students. A wireless access to the network is also available through Wi-Fi. Qualified instructors give the practical training. The laboratory contains all necessary software, and audio-visual teaching aids to impart the training more effectively.

The Internet facility with high bandwidth is also available to the students at no extra cost so that they can have an access to the unlimited wealth of information on the net.

## Library

The students have an access to the University Library, which is one of the biggest libraries in the country. The library contains a large number of books and journals, and excellent reading room facility. The library also subscribes a large number of periodicals on various subjects. In addition to this, a separate library with reading room is available for the BCA students having large number of books, which contains all the prescribed books as well as large number of specialized reference books on various aspects of information technology. This library also subscribes important periodicals in the subject to keep the students abreast with latest happenings in the field.

## Tentative Fee Structure

Category	Annual Fee (Rs.)	Semester Exam Fee (Rs.)	Fac.-Univ. Deve. & Maint. Fund (Rs)
Higher General Payment Special	44640/- 1,09,040/-	As Per University Rules	As Per University Rules

**Note: This is tentative fee structure which may modify by universities.**

### Refund of Fee

On cancellation of admission, the refund of the fees will be made as per University rules.

*[Note: The admission policy and fees structure are subject to revision as per the guidelines of authorities of The Maharaja Sayajirao University of Baroda, as and when applicable.]*

# Activities

## Seminars/ Workshops

ETCA 2020: National Seminar on Emerging Trends in Computer Applications



ETCA 2020 (National Seminar) on Emerging Trends in Computer Applications was organized by the Department during 28<sup>th</sup> & 29<sup>th</sup> February 2020. The Key Note Speaker was Prof. Manindra Agrawal, Dy. Director IIT Kanpur, along with various other eminent speakers.



# Cyberia

## Cyberia: Unleash the geek within

Cyberia provides an arena for the youth of today and serve as a platform to exhibit their technical acumen to the world and compete with like-minded peers thus strengthen & enhance their technical skills to be future-proofed for their I.T careers. It is not an event, it is an experience which gives you a taste of the current cyber world.





## Science Week

The science week and open house was celebrated in the DCA on Science Day. The students had participated in the events with the great enthusiasm. Several events were organized such as Bug Hunt, Sketch Code and Game/Quiz as well as Technical Video Shows is there. Whole department was decorated by the students on the theme of Science and Technology and it was observed that students have very good creative talent to reveal. It included making watch from the scrap material like e-waste, making decorative objects based on the concepts of information technology and also Rangoli were drawn by the students which are also appreciated by the eminent personalities of the university



# Student's Progression

The students who have passed BCA and M.Sc (IT), from here are placed in many reputed organizations of India, as well as abroad. Some of them are listed here:

Minebrat private limited, GeekConnects Technologies, Codemaster, Narola Infotech, Civica India Pvt. Ltd., ETech Global Services, Ajackus consultancy, Bank of America, Allscripts, BSPL, lauren information technologies pvt ltd, New Oceanic Hotel, Oracle, Techovarya solutions Pvt LTD, Bigscal Technologies Pvt Ltd, KMK Consulting Inc, Dots & Coms, alliancetek( us based company), Whitehat Jr( As professional course teaching expert),Alite Projects, continuum india pvt. Ltd.

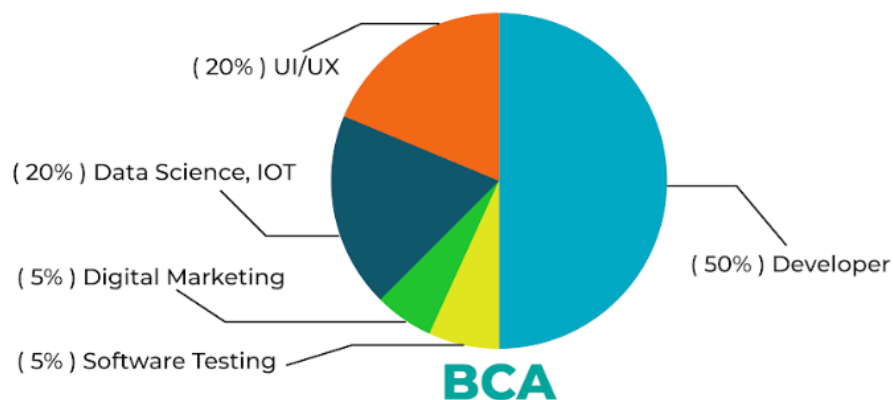
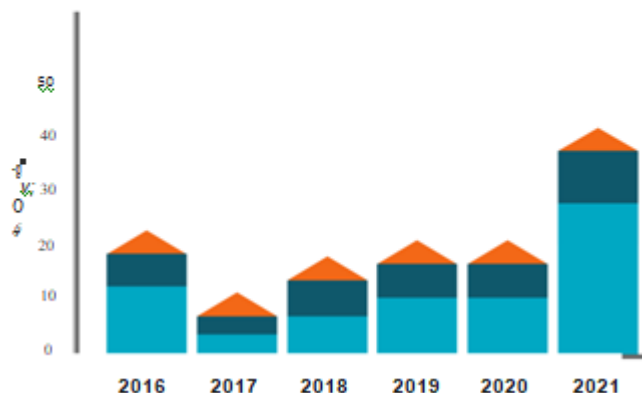
Many students are opting to go abroad for further studies or research.



# Student Placements

The key focus of the placement committee is to prepare students for their placement and internships. Keeping the students well prepared for what they are likely to face in the corporate world is the responsibility of every academic institute, and the team here at Department of Computer Applications, MSU takes every necessary step to train and guide the students. We are conducting training sessions of soft skills to enhance student's communication skills, group discussion, presentation skills and interview skills. Overall, these programs provided an insight into the job domains and prepared the job aspirants to face the challenges of the future. The students were assigned mentors for guidance and a series of aptitude tests were conducted to improve the problem-solving skills.

COMPARISON OF STUDENT OVER THE YEARS



**Website: [www.msubaroda.ac.in](http://www.msubaroda.ac.in)**  
**The M. S. University of Baroda Admission Portal**  
**[admission@msubaroda.ac.in](mailto:admission@msubaroda.ac.in)**

**Contact Details of Department of Computer Applications**

**E-mail: [head-compapp@msubaroda.ac.in](mailto:head-compapp@msubaroda.ac.in)**

**[dcamsu@gmail.com](mailto:dcamsu@gmail.com)**

**Mob: 7861038112 (during office hours only)**

**The information contained herein is for general guidelines only.**

**For further information contact Faculty Administration:**

**Prof. Haribhai Kataria**

**Dean, Faculty of Science**

**E-mail: [dean-science@msubaroda.ac.in](mailto:dean-science@msubaroda.ac.in)**

**Dr. R N Jadeja: Dean of Students**

**E-mail: [deanstudents-science@msubaroda.ac.in](mailto:deanstudents-science@msubaroda.ac.in)**

**Ms. Shilpa Gupta: Dean of Sports**

**E-mail: [deansports-science@msubaroda.ac.in](mailto:deansports-science@msubaroda.ac.in)**

**Dr. Rupal Shah, Dr. Dharmendra Shah: Teacher Supervisors**

**E-mail: [ts-science@msubaroda.ac.in](mailto:ts-science@msubaroda.ac.in)**

**Ms. Bharati M Pamnani: CBCS Coordinator**

**E-mail: [cbscoordinator-science@msubaroda.ac.in](mailto:cbscoordinator-science@msubaroda.ac.in)**

**Office Superintendent: Mr. K M Damor**

**Ph: 0265 2795329 (office)**

**Mob: 8141332160 (during office hours only)**



सत्यं शिवं सुन्दरम्

“The full-blown lotus growing out of the lake symbolises the emergence of the mind and its triumph over matter. The flame rising from the center of the lotus is the flame of the human knowledge, spreading light and learning for the coming generations. The motto inscribed below the lotus defines the purpose and existence of life which is love of beauty, goodness and intellectual curiosity.”

महाराजा सयाजीराव विश्वविद्यालय गीत

अमे वडोदराना विद्यापीठना सपना सारवनारा  
अमे ज्योत जलावी सृष्टी नवली सहसा सर्जनहारा.

अमे गगमकुसुम कर धरनारा  
अमे मगन मगन थई फरनारा  
अगन बाथ अमे भरनारा  
अमे दैन्यतिमिरने हरनारा.

श्री सयाजी विद्यापीठना ज्ञानदीपने धरनारा  
सत्यं शिवं सुन्दरम् नो मंत्र अनंतर भणनारा.

श्री सयाजी