

**FACULTY OF COMPUTER APPLICATIONS**

## **Program Project Report**

### **Bachelor of Computer Applications**

**(Online Mode)**



**MANAV RACHNA INTERNATIONAL INSTITUTE OF RESEARCH & STUDIES**

(Deemed to be University under section 3 of the UGC Act 1956)

## **1. Program's mission & objectives**

### **➤ Mission Statement**

1. To impart theoretical and practical training in advanced areas of computer applications and contribute new knowledge through analytical learning which encourages creativity, insight development and a passion for information technology.
2. To provide better ambience for research in order to enhance the performance of faculty members and scholars while continually providing conducive teaching- learning and research environment.
3. To provide learning ambience to generate innovative and problem solving skills with professionalism.

### **➤ Program Objectives**

The objective of the program is to develop students to work in fields of Computer Applications in various sectors together with internet technologies, e-business applications etc. The BCA program is focused on exposing students to business application areas. The program provides a strong foundation with an integrated understanding of Information Technology based applications. The program is designed to impart the concepts, values, challenges, opportunities and latest trends in the field of Computer Science to develop a broad practical understanding of its context, purpose, and underlying functional areas. The BCA program tends more towards software application development and exposure to the latest software tools and techniques to develop the applications.

## **2. Relevance of the program with HEI's Mission and Goals:**

### **➤ Institutional Mission**

1. To provide an environment in which teachers love to facilitate and students love to learn, consisting of infrastructure facilities at par with the best institutions in India and abroad.
2. To inculcate skills and impart knowledge to the ignited minds in the fields of science & technology and soft skills including leadership, team-building and communication.
3. To create human beings with golden heart, who work and dedicate themselves for the advancement of humanity.
4. To undertake research and development activities in collaboration with the world of work leading to creation of new knowledge in the fields of science, commerce, humanities, engineering & technology, management, health sciences & therapies, sports, multi-media, applied & performing arts.

### **➤ Institutional Goals**

MREI is dedicated and committed to train and equip its students with the latest knowledge and skills in the chosen fields in the backdrop of Indian ethos and values to enable them to face any global challenge with a view to transforming them into insightful, honorable and

responsible citizens of this great country; and imbibe a work culture of theoretical and applied research leading to creation and dissemination of knowledge.

MRIIRS strives continuously to improve quality of education to nurture the talent of our students to enable them to embark upon a successful career. Our team endeavors to achieve this objective through a proper blend of high conceptual and practical skills supported by excellent infrastructure, teaching methodology and commitment to Quality Management.

➤ **Linkage with Program Mission**

The undergraduate program in computer applications will make the students:

1. Well-prepared for successful careers in industry / consultancy / research & development / teaching and allied areas related to the subjects of Computer Applications.
2. Academically prepared to lead organizations they join or start.
3. To contribute to the profession and society at large by pushing the frontiers in technology.
4. To be successful in higher education in allied areas and in management, if pursued, leading to masters and research programs.
5. Groomed as software developers, enabling them to contribute effectively to the growth and development of the knowledge body.

### **3. Nature of prospective target group of learners**

People from remotest corner of the country, housewives, under privileged and physically challenged and all others those who are not able to enroll themselves in regular courses for various reasons can enroll in this program.

### **4. Appropriateness of program to be conducted in Online Mode to acquire specific skills and competence:**

The BCA program offered at MRIIRS by Department of Computer Applications comprises of theory classes, computer labs, self-learning component, assignments, tutorials, project work (software based) and evaluations.

All the components of the program including theory class, computer lab shall be conducted in online mode. The self-learning component is required to be covered by a student with the help of the provided online material and recommended reference books.

Some of the courses of BCA are already available on various MOOC platforms including SWAYAM. However, the institution will develop its own online learning modules which will include the systematic provisioning of assignment and evaluation under Quality Assurance Cell of the University.

## 5. Instructional Design:

### ➤ Curriculum Design/Study Scheme :

The duration of the BCA program is of three years divided into six semesters for students who have passed 10+2 Examination / Equivalent Examination with at least 50% marks in aggregate in 5 subjects including English as compulsory subject along with 4 subjects with the highest score out of the remaining subjects.

#### **Semester 1**

S.No	Name of the Course	Credit value of the course	No of weeks	No of Interactive sessions		Hours of Study Material		Self-Study hours including assessment	Total hours of study (based on 30 hours per credit)
				Synchronous Online counselling/ webinars / interactive live lectures (1 hour per week)	Discussion forum/ asynchronous mentoring (2 hours / week)	e-tutorial (in hours)	e-content (in hours)		
1	Elements of Mathematics	3	9	9	18	15	15	33	90
2	Hardware Interfaces	3	9	9	18	15	15	33	90
3	Introduction to IT & Programming in C	3	9	9	18	15	15	33	90
4	Database Management System	3	9	9	18	15	15	33	90
5	C Programming Lab	1	3	3	6	5	5	11	30
6	Database Management System Lab	1	3	3	6	5	5	11	30
7	Environmental Studies & Waste Management	3	9	9	18	15	15	33	90

**Total Credits: 17**

**Semester II**

S.No	Name of the Course	Credit value of the course	No of weeks	No of Interactive sessions		Hours of Study Material		Self-Study hours including assessment	Total hours of study (based on 30 hours per credit)
				Synchronous Online counselling / webinars/ interactive live lectures (1 hour per week)	Discussion forum/ asynchronous mentoring (2 hours / week)	e-tutorial (in hours)	e-content (in hours)		
1	Data Structures	3	9	9	18	15	15	33	90
2	Internet Technologies	3	9	9	18	15	15	33	90
3	Introduction to MIS and ERP	3	9	9	18	15	15	33	90
4	Data Structures Lab	1	3	3	6	5	5	11	60
5	Internet Technology Lab	1	3	3	6	5	5	11	60
6	Business Communication	3	9	9	18	15	15	33	90

**Total Credits: 14**

**Semester III**

S.No	Name of the Course	Credit value of the course	No of weeks	No of Interactive sessions		Hours of Study Material		Self-Study hours including assessment	Total hours of study (based on 30 hours per credit)
				Synchronous Online counselling / webinars/ interactive live lectures (1 hour per week)	Discussion forum/ asynchronous mentoring (2 hours / week)	e-tutorial (in hours)	e-content (in hours)		
1	Object Oriented Programming using C++	3	9	9	18	15	15	33	90
2	Introduction to Operating System	3	9	9	18	15	15	33	90
<b>BCA General</b>									
3	Mathematical Foundation of Computer Science	4	12	12	24	20	20	44	120
<b>BCA Specialization: Computer Networks</b>									
3	Fundamentals of Computer Networks	4	12	12	24	20	20	44	120
<b>BCA Specialization: Cyber Security</b>									
3	Information Security Fundamentals	4	12	12	24	20	20	44	120
4	C++ Lab	1	3	3	6	5	5	11	30
5	Web Applications Development/ Shell Programming	3	9	9	18	15	15	33	90
6	Web Applications Development Lab/ Shell Programming	1	3	3	6	5	5	11	30

**Total Credits: 15**

### Semester IV:

S.No	Name of the Course	Credit value of the course	No of weeks	No of Interactive sessions		Hours of Study Material		Self-Study hours including assessment	Total hours of study (based on 30 hours per credit)
				Synchronous Online counselling/webinars/interactive live lectures (1 hour per week)	Discussion forum/asynchronous mentoring (2 hours / week)	e-tutorial (in hours)	e-content (in hours)		
BCA General									
1	Numerical Analysis and Statistical Techniques	4	12	12	24	20	20	44	120
BCA Specialization: Computer Networks(Select any one)									
1	Routing and Switching	4	12	12	24	20	20	44	120
1	Introduction to TCP/IP	4	12	12	24	20	20	44	120
BCA Specialization: Cyber Security(Select any one)									
1	Data Security in Information Technology	4	12	12	24	20	20	44	120
1	Digital Forensic	4	12	12	24	20	20	44	120
2	Programming in Java	3	9	9	18	15	15	33	90
3	Java Lab	2	6	6	12	10	10	22	60
4	System Programming/Fundamentals of Artificial Intelligence	3	9	9	18	15	15	33	90
5	Multimedia and Animation	2	6	6	12	10	10	22	60

**Total Credits: 14**

**Semester V:**

S.N o	Name of the Course	Cr ed it va lu e of th e co ur se	No of week s	No of Interactive sessions		Hours of Study Material		Self-Study hours including assessment	Total hours of study (base d on 30 hours per credit)
				Synchronou s Online counseling/ webinars/ interactive live lectures (1 hour per week)	Discussion forum/ asynchronou s mentoring (2 hours / week)	e- tutoria l (in hours)	e- conten t (in hours)		
BCA General									
1	Data Communicatio n & Networking	4	12	12	24	20	20	44	120
BCA Specialization: Computer Networks(Select any one)									
1	4G Essential Networks	4	12	12	24	20	20	44	120
1	Introduction to Internet of Things	4	12	12	24	20	20	44	120
BCA Specialization: Cyber Security(Select any one)									
1	Security Intelligence and Compliance Analytics	4	12	12	24	20	20	44	120
1	Information Security and Audit Monitoring	4	12	12	24	20	20	44	120
2	RDBMS using Oracle	3	9	9	18	15	15	33	90
3	Python Programming	3	9	9	18	15	15	33	90
4	Oracle Lab	2	6	6	12	10	10	22	60
5	Python Programming Lab	1	3	3	6	5	5	11	30
6	Fundamentals of Object- Oriented Analysis & Design/ Introduction to Cloud Computing	3	9	9	18	15	15	33	90

**Total Credits: 16**



**Semester VI:**

S.No	Name of the Course	Credit value of the course	No of weeks	No of Interactive sessions		Hours of Study Material		Self-Study hours including assessment	Total hours of study (based on 30 hours per credit)
				Synchronous Online counselling/webinars/interactive live lectures (1 hour per week)	Discussion forum/asynchronous mentoring (2 hours / week)	e-tutorial (in hours)	e-content (in hours)		
1	Programming in .NET using C#	3	9	9	18	15	15	33	90
2	Programming in .NET using C# Lab	2	6	6	12	10	10	22	60
3	Minor Project	6	14	14	28	30	30	66	180
<b>BCA General (Select any one)</b>									
4	Data Warehousing	3	9	9	18	15	15	33	90
4	Security of Information System	3	9	9	18	15	15	33	90
<b>BCA Specialization: Computer Networks(Select any one)</b>									
4	Advanced Computer Networking	3	9	9	18	15	15	33	90
4	Network System Security	3	9	9	18	15	15	33	90
<b>BCA Specialization: Cyber Security(Select any one)</b>									
4	Cryptography and Network security	3	9	9	18	15	15	33	90
4	Network Management	3	9	9	18	15	15	33	90

**Total Credits: 14**

### University Core Courses

S.No	Name of the Course	Credit value of the course	No of weeks	No of Interactive sessions		Hours of Study Material		Self-Study hours including assessment	Total hours of study (based on 30 hours per credit)
				Synchronous Online counselling / webinars/ interactive live lectures (1 hour per week)	Discussion forum/ asynchronous mentoring (2 hours / week)	e-tutorial (in hours)	e-content (in hours)		
1	Entrepreneurship (FCBS)	3	9	9	18	15	15	33	90
2	Understanding human psychology (FBSS)	3	9	9	18	15	15	33	90
3	Principle of Economics(FBSS)	3	9	9	18	15	15	33	90
4	Introduction to Sociology(FBSS)	3	9	9	18	15	15	33	90

**Note: In the University Core Course, the student can select any one course of different discipline.**

## University Elective Courses

S.No	Name of the Course	Credit value of the course	No of weeks	No of Interactive sessions		Hours of Study Material		Self-Study hours including assessment	Total hours of study (based on 30 hours per credit)	Proposed Faculty Name
				Synchronous Online counselling/ webinars/ interactive live lectures (1 hour per week)	Discussion forum/ asynchronous mentoring (2 hours / week)	e-tutorial (in hours)	e-content (in hours)			
1	Indian Economy and policy (FBSS)	3credits	9weeks	9hours	18hours	15	15	33	90	To be allocated by the parent department
2	Elementary Statistics (FBSS)	3credits	9weeks	9hours	18hours	15	15	33	90	
3	Art & Sustainability (FBSS)	3credits	9weeks	9hours	18hours	15	15	33	90	
4	Sales and Distribution Government and politics in India (FBSS)	3credits	9weeks	9hours	18hours	15	15	33	90	
5	Introduction to public and policy (FBSS)	3credits	9weeks	9hours	18hours	15	15	33	90	
6	Applied Social Psychology (FBSS)	3credits	9weeks	9hours	18hours	15	15	33	90	
7	Psychology and	3credits	9weeks	9hours	18hours	15	15	33	90	

	Media (FBSS)									
8	Basic of Drafting Skills (FAD)	3credits	9weeks	9hours	18hours	15	15	33	90	
9	Design thinking (FAD)	3credits	9weeks	9hours	18hours	15	15	33	90	
10	Financial Accounting (FBCS)	3credits	9weeks	9hours	18hours	15	15	33	90	
11	Indirect taxation (FBCS)	3credits	9weeks	9hours	18hours	15	15	33	90	
12	Cost Accounting (FBCS)	3credits	9weeks	9hours	18hours	15	15	33	90	
13	United Nations and Global Conflicts (FBSS)	3credits	9weeks	9hours	18hours	15	15	33	90	
14	Issues to India Democracy (FBSS)	3credits	9weeks	9hours	18hours	15	15	33	90	
15	Photo Journalism and Camera	3credits	9weeks	9hours	18hours	15	15	33	90	

16	Digital Marketing	3credits	9weeks	9hours	18hours	15	15	33	90	
17	Fashion Communication	3credits	9weeks	9hours	18hours	15	15	33	90	
18	Weight Management	3credits	9weeks	9hours	18hours	15	15	33	90	
19	Food Toxicology	3credits	9weeks	9hours	18hours	15	15	33	90	

**\*\*For Successful completion of the BCA degree, the students need to earn 90 credits of compulsory courses and at least 30 of University Core/University Electives**

**Total Credits of BCA Program: 90 (Program Core + Program Elective) + 30 (University Core + University Elective) =120 Credits**

- For Successful completion of BCA degree, the student shall be required to earn minimum 120 credits in total, out of which he/she needs to earn 90 credits of compulsory courses through online classes as tabulated above and at least 30 additional credits through University Core/University Electives as approved by the Academic Council of the University.
- A semester typically will have 5-8 lectures (Hrs)/week and 10-16 hrs of interaction/mentoring session/week. It can be conducted on daily basis five days a week, early morning hours and / or weekend depending on the count of the students and their preferences
- The E-Learning Material shall have the four quadrant approach; as per UGC (Credit Framework for online learning courses through SWAYAM) Regulations, 2016 taking into consideration the following, namely:-
  - Quadrant-I is e-Tutorial; which shall contain: Video and Audio Content in an organized form, Animation, Simulations, Video Demonstrations, Virtual Labs, etc, along with the transcription of the video.
  - Quadrant-II is e-Content; which shall contain; self instructional material, e-Books, illustrations, case studies, presentations etc, and also contain Web Resources such as further references, Related Links, Open source Content on Internet, Video, Case Studies, books including e-books, research papers and journals, Anecdotal information, Historical development of the subject, Articles, etc.
  - Quadrant-III is the Discussion forum for raising of doubts and clarifying them on a near real time basis by the Course Coordinator or his team.
  - Quadrant-IV is Assessment, which shall contain; Problems and Solutions, which could be in the form of Multiple Choice Questions, Fill in the blanks, Matching Questions, Short Answer Questions, Long Answer Questions, Quizzes, Assignments and solutions, Discussion forum topics and setting up the FAQs, Clarifications on general misconceptions.

- The students who will participate in atleast 75% of the activities (online class + time bound assignments + discussion forms for a subject will be eligible for end semester examination for that course)

➤ **Process of program & Course Approval**

The draft curriculum of the program is prepared keeping in view its relevance to the global, national, regional and local needs by taking the feedbacks from the stakeholders (Parents, Faculty Students, Alumni and Employer) and is then deliberated very meticulously by BOS. It also checks and defines the feasibility, credit hours and scheme of examination. The final recommendations of BOS are further discussed and reviewed in BOF. The recommended program curriculum is then submitted to Academic Council of the University for its Final Approval. On these lines the first year e-contents in the four quadrants will be prepared at least one month before the start of the session. The revision in course contents (addition/deletion), introduction of any new area specific or value-added courses are taken up with the robust mechanism of feedback on curricula prevailing in the university.

➤ **Faculty & Support staff**

The required number of competent and domain specific faculty (Professor, Associate Professor, and Assistant Professor) is already available in the department and shall be allocated as per the requirements stipulated in the UGC Regulations & Guidelines for Online program. Furthermore, the adequate IT Technical staff are deployed for conduct of Virtual labs and managing the IT infrastructure. Also, administrative staff is available at the department and Institute level for the management of EMS, student records etc.

➤ **Identification of Media**

The required media to be used for the program for online delivery of its stipulated courses have already been identified with the proportion as stated below:

<b>Media to be used for curriculum</b>	<b>Percentage</b>
Audio/Video material	10%
Work related exercises practical/Quizzes and Assignments	37%
Digital contents	33%
Virtual Labs	20%

➤ **Student Support Services System :**

For the successful implementation and execution of the program, one program coordinator at the level of Professor shall be designated. The designated Program Coordinator at the end of program for

a batch of students shall see the overall attainments of expected Program Outcomes to take further necessary corrective measures and actions for its continuous improvement.

In addition to Program Coordinator, for proper planning, execution and regular monitoring of the course content delivery of each course, one Course Coordinator shall be designated, who at the end of completion and examinations of the course, shall see the course attainment level of the students register for that particular course. In addition to the Program and course coordinators, there will be a course mentor (as per UGC guidelines), for providing the academic support to the learners and also for managing the teacher-learner interaction groups. For immediate /addressing to the day to day queries/doubts of the enrolled students, course mentors shall be designated/ appointed for each course.

A transparent and robust feedback mechanism from all stake holders shall be put in place as per the prevalent practice for the normal programs being offered in the University.

The queries/concerns/issues/grievance shared by the learner/student will have a time bound resolution mechanism. In case the course mentor is not able to handle/resolve the issues, it will be escalated to course coordinator, then to program coordinator and in the last to the Director level. The learner will be informed about the status of his concern through a transparent online Rehressal mechanism.

## **6. Procedure for admissions, curriculum transaction and evaluation**

### **➤ Eligibility Criteria**

Pass in 10+2 Examination / Equivalent Examination with at least 50% marks in aggregate in 5 subjects including English as compulsory subject along with 4 subjects with the highest score out of the remaining subjects.

### **Fee Structure**

Rs 2,50,000/- for three years to be paid in three installments.

**First year:** Rs 95000

(Rs 25,000/-(onetime non- refundable registration fees) + 70000/-)

**Second Year:** Rs 70000/-

**Third Year:** Rs 70000/-

- Examination fees + IT Resources @Rs. 5000/- p.a. =Rs 15000

## **Scholarship Policy**

### ***I. Policy***

#### **a. On Merit Basis**

80 % and above marks / CGPA in Qualifying exam will be awarded 100 % tuition fee waiver

70% to 79.99% marks / CGPA in Qualifying exam will be awarded 50% tuition fee waiver

60% to 69.99% marks / CGPA in Qualifying exam will be awarded 25% tuition fee waiver

#### **b. Under Special Category**

Categories	Fee Concession	Documents to be Submitted	Continuation
Empowering Women (For women on Sabbatical)	25% on Tuition Fee	Self Declaration	For all Years
Alumni Special(MREI Alums)	25% on Tuition Fee	Certificate/Degree Having Student enrollment no.	For all Years
Government Special(Working with State Govt. or Central Govt.)	25% on Tuition Fee	ID Proof having Employee no.	For all Years
Sports(State Level & above)	25% on Tuition Fee	State Level or National Level Certificate	For all Years
Divyang	25% on Tuition Fee	Disability Certificate	For all Years

### **II. Conditions for Continuation of Scholarship Policy**

Maintain a minimum CGPA of 6.5 Annually (1st & 2nd Semester). However, if any student considered for fee concession in the first year fails in any of the subject, he/she may be considered for continuation of fee concession provided that he/she shall have to clear the subjects in the subsequent academic year failing which he/she may not be considered for the continuation of Fee Concession.

#### **➤ Web Based Tools to be Adopted**

The online academic delivery will be ensured through Microsoft Teams / Google Meet platforms. All the record keeping will be done by Web based Portal (iCloud EMS) which allows the student to access to the following:

- Admission & Enrolment Details
- Fee Details and Online Fee Payment Gateway
- Prospectus, Regulations & Syllabus
- Notifications (Admissions, fees, examinations etc.)
- Lesson Plan
- Continuous Assessments /Assignments
- Online PCP Classroom Lectures (Recorded or via Virtual Classroom session) as conducted each semester.
- Online Copy of the Grade sheet.
- Recording of the lectures, delivered in online mode.
- One application and critical thinking based assignment will be given to the enrolled students after the completion of each unit and the evaluation will be shared with the students within a week's time. The grievances if any should be resolved in max next week. The evaluation of



- the assignment should be uploaded on the web portal within two days of the evaluation of the assignment.

## 7. Academic Calender

S.No	Name of the Activity	Semester 1	
1.	Course Registration and start of classes	1 <sup>st</sup> day of Session	
2.	Conduct of the first sessional tests T1(from first half of the syllabus)	49 <sup>th</sup> day	54 <sup>th</sup> day
3.	Uploading of the result on the web portal	61 <sup>th</sup> day	
4.	Conduct of the second Sessional tests T2 (from second half of the syllabus)	112 <sup>th</sup> Day	117 <sup>th</sup> day
5	Uploading of the result on the web portal	124 <sup>th</sup> day	
6.	Conduction of the end semester practical exams	131 <sup>th</sup> day	137 <sup>th</sup> day
7.	Conduction of the end semester theory exams	147 <sup>th</sup> day	151 <sup>th</sup> day
8.	Upload the complete result on ERP/website	162 <sup>th</sup> day	
9.	Next semester academic calendar	166 <sup>th</sup> day	

### ➤ **Examinations**

- All the examinations will be conducted with technology enabled online mode with proctored AI and/or the proctored online mode.
- The recording of the online proctored examination will be kept/archived in the records/ for two year, subsequent to the conduct of the examination.
- The attendance of examinees shall be authenticated through biometric system as per Aadhaar details or other Government identifiers of Indian learners and Passports for International learners

### **Examination Policy**

The evaluation will include two types of assessments;

(i) Continuous or formative assessments (in the form of end semester examination or term examination. Weightage of assessments are as follows:

For continuous or formative assessment (in semester): Maximum 30 percent. The categorization for the same is:

MCQs	30%
Subjective (Short/Long)	40%
Discussion/Presentation	15%
Projects/Group Activities etc	15%

(ii) For summative assessment (end semester examination or term end examination):

Minimum: 70 percent. Categorization for the same is:

Objective Type Questions: 30%

Short/Long Questions: 70%

Passing Criteria in Internal Assessment/ Continuous Evaluation and External/ End Semester Evaluation:

Student will be declared pass in the subject if he/she scores jointly 40% marks in Internal Assessment / Continuous Evaluation and External/ End Semester Evaluation.

Marks or grades obtained in continuous assessment and end semester examinations or term end examinations shall be shown separately in the grade card.

- Grading System :

Grade	Grade Point (GP)	Description of performance	Recommended range of marks in percent	Expected number of students in a Grade
O	10	Outstanding	95 – 100	0
A+	9	Excellent	85 – 94.9	Not > 10%
A	8	Very Good	75 – 84.9	Not > 15%
B+	7	Good	65 – 74.9	Not > 15%
B	6	Above Average	55 - 64.9	Not > 40%
C	5	Average	45 – 54.9	Not > 10%
P	4	Pass	40 - 44.9	Not > 10%
F	0	Fail	0-39.9	Not > 10%
AB	0	Absent		0
AP		Audit Pass		0

## 8. Requirement of Library Resources

The library services at Manav Rachna can be accessed using the

link <https://manavrachna.edu.in/international-institute-of-research-and-studies/central-library/>

It offers a range of services for academic and research pursuits:

- Circulation Services
- Reference & Research Services
- Digital Library
- Current Awareness Service
- User Orientation Programs
- Wi-Fi and Internet
- Photocopy, Scanning and Printing Facilities

## 9. Cost estimate of the program and the provisions

Budget for Audio/Video Production, LMS and other requirements:

- Bandwidth- 200 Mbps for one year
- 360000/- per year (Rs 1000 per year)
- Cloud Account AWS- Rs. 10,000 – 15,000/- per year

- Virtual Machine- Rs. 1500/- month per virtual machine

## **10. Quality assurance mechanism and expected program outcomes**

The IQAC is striving to bring newer initiatives pertaining to research, campus development, ICT adoption in teaching, providing better focus for the research scholars through workshops, coordinating Academic and Administrative Audit of the University, etc. At the end of every academic year, the University conducts assessment of the curriculum/ course/ academic programme by students. The 5 assessment focuses on broad areas like

- 1) Reasons for selecting courses,
- 2) Facilities available in the Departments,
- 3) Quality of the syllabus,
- 4) Internal assessment evaluation,
- 5) Quality of the teacher in terms of regularity to classes, command over language, encouragement of students in the classes, completion of syllabus.

Towards the Quality Assurance Mechanism for online distance Programs, the University shall establish a **Centre for Internal Quality Assurance(CIQA)**. The CIQA will be required to

1. Conduct training and capacity building of teaching and administrative staff.
2. The University IQAC's cell shall work closely with the CIQA to develop Feedback mechanisms,
3. to allow for Program and Process Review on a regular basis. 360 Degree feedback, from Students, Faculty and Alumni shall be processed, and suggestions and improvements incorporated accordingly.
4. The Course shall be benchmarked with the Courses conducted in campus, for online students/learners, in order to ascertain the quality. These indicators shall be used to constantly improve upon the programs, and make them at par industry standards and expectations.
5. Coordinate with third party auditing bodies for quality audit of programme(s)
6. Prepare and submit and annual report

### **Expected Program Outcomes and Program Specific Outcomes**

A BCA pass out student is expected to have following attributes which are indicative of the graduates' ability and competence to work as an IT professional upon graduation. The achievement of all outcomes indicates that the student is well prepared to achieve the program educational objectives down the road. The department of Computer Applications has following PO's.

**PO1.** Computational Knowledge: Understand and apply mathematical foundation, computing and domain knowledge for the conceptualization of computing models from defined problems.

**PO2.** Problem Analysis: Ability to identify, critically analyze and formulate complex computing problems using fundamentals of computer science and application domains.

**PO3.** Design / Development of Solutions: Ability to transform complex business scenarios and contemporary issues into problems, investigate, understand and propose integrated solutions using emerging technologies.

**PO4.** Conduct Investigations of Complex Computing Problems: Ability to devise and conduct

experiments, interpret data and provide well informed conclusions.

**P05.** Modern Tool Usage: Ability to select modern computing tools, skills and techniques necessary for innovative software solutions

**P06.** Professional Ethics: Ability to apply and commit professional ethics and cyber regulations in a global economic environment.

**P07.** Life-long Learning: Recognize the need for and develop the ability to engage in continuous learning as a Computing professional.

**P08.** Project Management: Ability to understand management and computing principles with computing knowledge to manage projects in multidisciplinary environments.

**P09.** Communication Efficacy: Communicate effectively with the computing community as well as society by being able to comprehend effective documentations and presentations.

**P010.** Societal & Environmental Concern: Ability to recognize economical, environmental, social, health, legal, ethical issues involved in the use of computer technology and other consequential responsibilities relevant to professional practice.

**P011.** Individual & Team Work: Ability to work as a member or leader in diverse teams in multidisciplinary environment.

**P012.** Innovation and Entrepreneurship: Identify opportunities, entrepreneurship vision and use of innovative ideas to create value and wealth for the betterment of the individual and society.

#### **Program Specific Outcomes**

PSO1. Explore technical comprehension in varied areas of Computer Applications and experience a conducive environment in cultivating skills for thriving career and higher studies.

PSO2. Comprehend, explore and build up computer programs in the allied areas like Algorithms, System Software, Multimedia, Web Design and Data Analytics for efficient design of computer-based systems of varying complexity.

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\*End\*

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