BCA, BCA Honors
BCA Honors with Research (As per NEP 2020)

		Semester I			Semester II	
	Subject Code	**Subject Name**	**Credits**	**Subject Code**	**Subject Name**	**Credits**
FIRST YEAR	CC- I	Programming in C	4	CC- II	Programming in C++	4
	MC- I	Web Technology	4	MC- II	JavaScript	4
	IDC- I	Inter Disciplinary Course	3	IDC- II	Inter Disciplinary Course	3
	AEC- I	Ability Enhancement Course	3	AEC- II	Ability Enhancement Course	3
	SEC- I	Skill Enhancement Course	3	SEC- II	Skill Enhancement Course	3
	VAC- I	Value Added Course	2	VAC- III	Value Added Course	2
	VAC- II	Value Added Course	2	VAC- IV	Value Added Course	2
		Total Credits	**21**		**Total Credits**	**21**
					Total Credits in First Year	**42**
					INTERNSHIP PROGRAM I [Duration 4 weeks]	**4**

Note: CC- Core Course, MC- Minor Course, IDC – Inter Disciplinary Course, AEC- Ability Enhancement Course, SEC – Skill Enhancement Course, VAC- Value Added Course

		Inter Disciplinary Course (IDC)		Ability Enhancement Course (AEC)		Skill Enhancement Course (SEC)		Value Added Course (VAC)
SEM – I	**IDC-I**	Math-I	**AEC-I**	Effective English Communication	**SEC-I**	Information Communication and Technology	**VAC-I**	Environmental Studies
								Sustainable Development
		Principle of Economics		English Language and Skills		Handloom	**VAC-II**	Yoga for Personal and Family Health
								Human Values and Professional Ethics
SEM – II	**IDC-II**	Math-II	**AEC-II**	Academic Reading and Writing	**SEC-II**	Numerical Aptitude and Reasoning	**VAC-III**	Understanding India
								Constitution of India
		Fundamental of Accountancy		Modern Indian Language		Graphics and Design	**VAC-IV**	Cyber Security and Law
								Web Enabled Technologies

Program Outcome

- To learn the latest trend in various subjects of IT.
- To Design and develop small applications and solve the IT related problems.
- To equip the students with skills required for designing, developing application in IT.
- To analyze numerical and logical problems.
- Students may opt for employment opportunity as Junior Developer and Front End Developer

Exit Option

Student who completes two semesters including Internship Program Iwith 46 credits will be awarded as Certificate in Computer Applications. If student wish to continue further after exit, then he/she has to join within three years of exit from Third Semester. For example, if student exit in June 2023 then he / she can rejoin the course within Aug-2026 session.

Continue Option

Students who wish to continue for Second Year is exempted from doing Internship Program I.

	Semester III			Semester IV		
	Subject Code	Subject Name	Credits	Subject Code	Subject Name	Credits
SECOND YEAR	CC- III	Data Structure and Algorithms	4	CC- VI	Database Management System	4
	CC- IV	Operating System	3	CC-VII	PHP	4
	CC- V	OOPs with Java	4	CC-VIII	Software Engineering	3
	MC-III	Multimedia	3	MC-IV	Computer Organization and Architecture	3
	IDC-III	Inter Disciplinary Course	3	MC-V	Probability and Statistics using Computer Program	3
	AEC- III	Ability Enhancement Course	3	SEC- III	Skill Enhancement Course	3
		Total Credits	20		Total Credits	20
		Total Credits in Second Year	40		Cumulative Credits[FIRST YEAR + SECOND YEAR]	82
					INTERSHIP PROGRAM II [4 credits – Duration 4 weeks]	86

Note:CC- Core Course, MC- Minor Course, IDC – Inter Disciplinary Course, AEC- Ability Enhancement Course, SEC – Skill Enhancement Course, Internship Program II is compulsory

Inter Disciplinary Course (IDC)		Ability Enhancement Course (AEC)		Skill Enhancement Course (SEC)	
IDC-III	Principle of Management	AEC-III	Soft Skill	SEC-III	Digital Marketing
	Organization Behavior		Public Speaking		Library and Information Science

Program Outcome

- To analyze problem and solve using effective algorithms.
- To Design and develop complex applications and solve the IT related problems.
- To equip the students with required skilled for handling different multimedia software.
- To develop dynamic website.
- To design and develop databases for various application.
- To understand, design and develop using standard software development principle.
- Students may opt for employment opportunity as Junior Developer, Front End Developer, Database Administrator / Designer and Software Developer.

Exit Option-

Student who completes four semesters including Internship Program II with 86 credits will be awarded as Diploma in Computer Applications. If student wish to continue further after exit, then he/she has to join within three years of exit from Fifth Semester. For example, if student exit in June 2023 then he / she can rejoin the course within Aug-2026 session.

Continue Option-

Students who wish to continue for Third Year has to do Internship Program II.

	Semester V			Semester VI		
	Subject Code	Subject Name	Credits	Subject Code	Subject Name	Credits
THIRD YEAR	CC- IX	Artificial Intelligence	3	CC-XIV	Big Data	3
	CC- X	ASP.NET	4	CC-XV	Data Warehouse and Data Mining	3
	CC- XI	Data Communication and Networking	3	CC-XVI	Mobile Application Development	4
	CC-XII	Software Testing	3	CC-XVII	OOAD	3
	CC-XIII	Unix Programming	3	CC-XVIII	Programming in Python	4
	MC-VI	UI/UX Design	4	MC-VII	Cloud Computing	3
		Total Credits	20		Total Credits	20
		Total Credits in Third Year	40		Cumulative Credits[FIRST YEAR + SECOND YEAR+THIRD YEAR]	126

Note:CC- Core Course, MC- Minor Course

Program Outcome

- To understand trends in AI and how it works.
- To understand and handle large volume of data.
- To Design and develop complex web applications.
- To perform software testing using valid principle.
- To design and develop professional applications.
- To analyze and design professional documentation.
- Students may opt for employment opportunity as Software Developer, Web Developer, Mobile Application Developer, UI/UX Designer and Software Developer.

Exit Option-

Student who completes six semesters with 128 credits will be awarded as Bachelor in Computer Applications. If student wish to continue further after exit, then he/she has to join within three years of exit from Seventh Semester. For example, if student exit in June 2023 then he / she can rejoin the course within Aug-2026 session.

Continue Option-

Students after completing Bachelor can either go for BCA Honors or Honors with Research if they maintain 7.5 CGPA till third year.

	Semester VII			Semester VIII		
	Subject Code	**Subject Name**	**Credits**	**Subject Code**	**Subject Name**	**Credits**
FOURTH YEAR	CC- XIX	Design and Analysis of Algorithms	4	CC-XXIII	Data Analytics	4
	CC- XX	Machine Learning	3	CC-XXIV	Internet of Things	4
	CC- XXI	Numerical Analysis	3	CC-XXV	Project Management	4
	CC- XXII	Theory of Computation	3	CC-XXVI	Project	4
	MC-VIII	Elective I	4	MC-IX	Elective II	4
	SEC-IV	Research Methodology	3			
		Total Credits	**20**		**Total Credits**	**20**
		Total Credits in Fourth Year	**40**	**Cumulative Credits[FIRST YEAR + SECOND YEAR+THIRD YEAR+FOURTH YEAR]**		**166**

Note:CC- Core Course, MC- Minor Course, SEC- Skilled Enhancement Course

Elective I	**Elective II**
Digital Image Processing	Blockchain Technology
Distributed Computing	Cryptography
Parallel Computing	Deep Learning
Network Security	Human Computer Interaction

Program Outcome

- To design and understand complex problems and algorithms.
- To understand and handle large volume of data and apply various machine learning techniques.
- To be familiar with different technologies of IOT.
- To understand the theoretical aspect of computing.
- To analyze numerical problems and write program for it.
- To understand and manage professional projects.
- To understand various research methodologies.
- Students may opt for employment opportunity as Software Developer, Web Developer, Mobile Application Developer, UI/UX Designer, Software Developer, Data Science Engineer, Machine Learning Engineer, Project Manager.

	Semester VII			Semester VIII		
	Subject Code	Subject Name	Credits	Subject Code	Subject Name	Credits
FOURTH YEAR	CC- XIX	Design and Analysis of Algorithms	4	CC-XXIII	Data Analytics	4
	CC- XX	Machine Learning	3	CC-XXIV	Thesis	12
	CC- XXI	Numerical Analysis	3	MC-IX	Elective II	4
	CC- XXII	Theory of Computation	3			
	MC-VIII	Elective I	4			
	SEC-IV	Research Methodology	3			
		Total Credits	**20**		**Total Credits**	**20**
		Total Credits in Fourth Year	**40**		**Cumulative Credits[FIRST YEAR + SECOND YEAR+THIRD YEAR+FOURTH YEAR]**	**166**

Note:CC- Core Course, MC- Minor Course, SEC- Skilled Enhancement Course

Elective I	Elective II
Digital Image Processing	Blockchain Technology
Distributed Computing	Cryptography
Parallel Computing	Deep Learning
Network Security	Human Computer Interaction
	Internet of Things

Program Outcome

- To design and understand complex problems and algorithms.
- To understand and handle large volume of data and apply various machine learning techniques.
- To understand the theoretical aspect of computing.
- To analyze numerical problems and write program for it.
- To understand and manage professional projects.
- To understand various research methodologies.
- To perform research in desired areas.
- Students may opt for employment opportunity as Software Developer, Web Developer, Mobile Application Developer, UI/UX Designer, Software Developer, Data Science Engineer, Machine Learning Engineer, Research Assistant, and Opt for PhD.