

JAYPEE INSTITUTE OF INFORMATION TECHNOLOGY
DEPARTMENT OF COMPUTER APPLICATIONS

BCA(Honours)/BCA (Honours with Research) Curriculum Academic Year 2025-2026
onwards as per AICTE 2024 and NEP 2020 norms

S. No	Category	Code	AICTE Credit BCA	JIT as per AICTE
1	Major Core Courses	CC	55	54
2	Ability Enhancement Courses	AEC	3	7
3	Multi-Disciplinary Elective course	MDE	5	9
4	Value added Courses	VAC	6	6
5	Skill Enhancement courses	SEC	20	16
6	Discipline Specific Elective	DSE	51	42
7	Open Elective	OE	0	0
8	Seminar/Internships/Projects	SEC	20	26
	Total		160	160

Category-wise Distribution of the Credits across the Programme								
Semester	CC	DSE	MDE	AEC	SEC	VAC	Internship/SEC	Total Credits
I	6	0	3	2	5	4	0	20
II	10	0	3	1	4	2	0	20
III	10	4	0	2	4	0	0	20
IV	10	5	3	2	0	0	0	20
V	14	6	0	0	0	0	3	23
VI	0	12	0	0	0	0	5	17
BCA (Honours)								
VII	4	9	0	0	3	0	4	20
VIII	0	6	0	0	0	0	14	20
BCA (Honours with Research)								
VII	12	8	0	0	0	0	0	20
VIII	0		0	0	0	0	20	20
Total	54 / (66 _{HwR})	42 / (50 _{HwR})	9	7	16	6	26 /46	160

Bachelor's in Computer Applications

First Semester_AICTE								
S.No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	25B11CA112	CC	Web Technology	3	0	0	3	3
2	25B11CA113	CC	Digital Logic	2	0	0	2	2
3	25B11CA111	SEC	Problem Solving Technique using C	3	1	0	4	4
4	23B31MA111	MDE	Fundamentals of Mathematics	2	1	0	3	3
5	25B31HS112	AEC	English	1	0	0	1	1
6	25B11CA114	VAC	Digital Technologies	2	0	0	2	2
7	23B12BT111	VAC	Environmental Science	2	0	0	2	2
8	25B15CA111	SEC	Problem Solving Technique using C lab	0	0	2	1	2
9	25B15CA112	CC	Web Technology lab	0	0	2	1	2
10	25B35HS111	AEC	English Language Lab	0	0	2	1	2
Total credits							20	23

Second Semester_AICTE								
S.No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	23B61CA121	CC	Data Structures	3	1	0	4	4
2	23B61CA122	CC	Database Management Systems	3	1	0	4	4
3	23B31MA112	MDE	Discrete Mathematics	3	0	0	3	3
4	25B31HS111	SEC	Soft Skills & Personality Development	1	0	0	1	1
5	25B11CA126	SEC	Introduction to Python Programming	2	0	0	2	2
6	23B36HS111	VAC	Everyday Psychology	2	0	0	2	2
7	25B35HS112	AEC	Soft Skills & Personality Development Lab	0	0	2	1	2
8	23B61CA124	CC	Data Structures Lab	0	0	2	1	2
9	23B61CA125	CC	Database Management Systems Lab	0	0	2	1	2
10	25B15CA126	SEC	Introduction to Python Programming Lab	0	0	2	1	2
Total credits							20	24

Third Semester_AICTE								
S.No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	25B11CA211	CC	Algorithm and Problem Solving (APS)	3	1	0	4	4
2	25B11CA212	CC	Object Oriented Programming (C++)	3	1	0	4	4
3	DSEI-XXXX	DSE*	DSE -1	2	1	0	3	3
4	26B36HS211	SEC	Entrepreneurship and Start-up ecosystem	1	0	0	1	1
5	25B11CA214	SEC*	Multimedia Technology	2	0	0	2	2
6	25B11CA215	AEC	Critical Thinking & Writing	2	0	0	2	2
7	25B15CA211	CC	Algorithm and Problem Solving (APS) Lab	0	0	2	1	2
8	25B15CA212	CC	Object Oriented Programming (C++) Lab	0	0	2	1	2
9	25B15CA214	SEC*	Multimedia Technology Lab	0	0	2	1	2
10	DSEI-XXX	DSE*	DSE -1 Lab	0	0	2	1	2
Total credits							20	24

DSE* and SEC* :- These Electives/Courses will not be offered through MOOC.

Fourth Semester_AICTE								
S.No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	25B11CA216	CC	Software Engineering and Quality Assurance	3	0	0	3	3
2	25B11CA217	CC	Core Java	3	0	0	3	3
3	23B61CA222	CC	Operating System	3	0	0	3	3
4	26B12MA213	MDE	Linear Algebra and Optimization	3	0	0	3	3
5	DSEII-XXXX	DSE	DSE-II	2	0	0	2	2
6	DSE-XXXX/ DSE-XXXX / DSE-XXXX	DSE*	Full Stack Application Development-I (Web development/Java/Mobile)	2	0	0	2	2
7	25M21HS112	AEC	Personality Development & Decision-making Skills	2	0	0	2	2
8	DSEXXX/ DSEXXX/ DSEXXX	DSE*	Full Stack Application Development-I (Web development/Java/Mobile) Lab	0	0	2	1	2
9	25B15CA217	CC	Core Java Lab	0	0	2	1	2
Total credits							20	22

DSE*:- These electives will not be offered through MOOC.

Fifth Semester_ AICTE								
S.No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	25B11CA311	CC	Machine Learning	3	0	0	3	3
2	25B11CA312	CC	Data Communication & Networking	3	0	0	3	3
3	25B12CA313	CC	Cloud Computing	3	0	0	3	3
4	25B12CA314	CC	Agile software development	3	0	0	3	3
5	DSE-XXXX/ DSE-XXXX/ DSE-XXXX	DSE*	Full Stack Application Development -II (Web development/Java/Mobile)	2	0	0	2	2
6	DSEIII-XXXX	DSE	DSE -III	2	0	0	2	2
7	25B15CA311	CC	Machine Learning Lab	0	0	2	1	2
8	DSE-XXX/ DSE-XXX / DSE-XXX	DSE*	Full Stack Application Development -II (Web development/Java/Mobile) Lab	0	0	2	1	2
9	25B15CA314	CC	Agile software development Lab	0	0	2	1	2
10	DSEIII-XXX	DSE	DSE -III Lab	0	0	2	1	2
11	23B67CA313	SEC	Summer Internship	0	0	6	3	6
12	25B17CA314	SEC	Major Project [evaluation in sixth semester]	0	0	0	0	0
Total credits							23	30

DSE*:- These electives will not be offered through MOOC.

Sixth Semester_ AICTE								
S.No	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	DSEIV-XXXX	DSE	DSE-IV	3	0	0	3	3
2	DSEV-XXXX	DSE	DSE -V	3	0	0	3	3
3	DSEVI-XXXX	DSE	DSE -VI	3	0	0	3	3
4	DSEVII-XXXX	DSE	DSE – VII	3	0	0	3	3
5	25B17CA315	SEC	Major Project [Initiated in 5th Semester]	0	0	10	5	10
Total credits							17	22

Remark: Electives in sixth semester can be taken through MOOC as per policy of University.

Seventh Semester AICTE								
S. No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	DSEVIII-XXXX	DSE	DSE - VIII	3	0	0	3	3
2	DSEIX-XXXX	DSE	DSE – IX	3	0	0	3	3
3	DSEX-XXXX	DSE	DSE-X	3	0	0	3	3
4	SECXXXX	SEC	Design Thinking and Innovation	3	0	0	3	3
5	25B17CA412	SEC	Summer Internship	0	0	8	4	8
6	25B17CA413	CC	Research Project / Dissertation+ Term Paper	0	0	8	4	8
Total credits							20	28

Remark: Electives in seventh semester can be taken through MOOC as per policy of University.

Eighth Semester AICTE								
S.No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	DSEXIXXXX	DSE	DSE -XI	3	0	0	3	3
2	DSEXIXXXX	DSE	DSE -XII	3	0	0	3	3
3	SECXXXX/ SECXXXX	SEC	Research Project/Entrepreneurship / Dissertation+ Term Paper	0	0	28	14	28
Total credits							20	34

Remark: Electives in eighth semester can be taken through MOOC as per policy of University.

Bachelor's in computer application (Honours with Research)

Seventh Semester Honours with Research AICTE								
S.No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	DSEVIII-XXXX	DSE	DSE - VIII	3	0	0	3	3
2	DSEIX-XXXX	DSE	DSE – IX	3	0	0	3	3
3	DSEX-XXXX	DSE	DSE – X	2	0	0	2	2
4	CCXXXX	CC	Research Internship Report and Viva-Voce	0	0	24	12	24
Total credits							20	32

Remark: Electives in seventh semester can be taken through MOOC as per policy of University.

Eighth Semester Honours with Research AICTE								
S.No.	Course Code	Course Discipline	Course Title	L	T	P	Credits	Contact Hours
1	SECXXXX	SEC	Dissertation (For Research Track) *	–	–	40	20	40
Total credits							20	40

Total Program Credits up to 4 years	160
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Program - BCA (Bachelor of Computer Applications)									
Program Structure 2025 Onwards									
S. No.	Major Discipline	Minor Discipline (Full Stack Development)			Major Choices				
1	AI/ML	Web Application Development-MERN			Semester	Major Choices	AI/ML	Cyber Security + Cloud Computing	Data Analytics
2	Cyber Security	Java Application Development			III	DSE-1	Applied Probability and statistics		Probability and Statistics using Python
3	Data Analytics	Mobile Application Development			IV	DSE-II	Fundamentals of Artificial Intelligence	Fundamentals of Computer & Network Security	Introduction to Data Science
					V	DSE-III	AI Automated Tools	Introduction to Cryptography and its Applications	Data Analytics using Python and R
					VI	DSE-IV	Fuzzy Logic and Neural Network	Distributed Computing	Data Mining & warehousing
				DSE-V		Speech Recognition	Cyber Security	Big Data Analytics	
				DSE-VI		Computational Linguistics and Natural Language Processing	Cloud Computing	Business Intelligence & Data visualization	
				DSE-VII		Security aspects of ML	Block- Chain Technology	Data Ethics and Privacy	
				VII	DSE-VIII	Introduction to Deep Learning/	Devops	Predictive Analysis/ Advanced Data Analysis Tools	

	DSE-IX	Generative AI	Cloud security	Statistical Methods for Data Science
	DSE-X	Explainable & Responsible AI	Ethical Hacking & Prevention	Data Engineering
VII	DSE-XI	Secure Software Development	Information Retrieval	Socila network Analysis
	DSE-XII	Advanced Machine Learning & Model Optimization	Advanced Cloud Architecture & Security Management	Image Processing and Computer Vision

Note: The elective list is subject to revision based on industry demand and faculty availability during the semester.