



JECRCTM
UNIVERSITY
BUILD YOUR WORLD

School of Computer Applications
Scheme & Syllabus
of
Bachelor of Computer Applications (BCA)
Specialization- Block Chain
(In association with upGrad)
Academic Program
July 2026

JECRC University, Jaipur
Plot No. IS-2036 to IS-2039 Ramchandrapura Industrial Area Jaipur, Sitapura, Vidhani,
Rajasthan 303905

Block Chain Specializations Subjects (BCA)							
Semester	Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
I	BCA412A/412B	Object Oriented Programming (Java Based)	3	0	2	4	S
II	BCA413A	Web Development	3	0	0	3	S
II	BCA414A	Data Structures	4	0	0	4	S
III	BCA415A	Algorithms	3	0	0	3	S
IV	BCA416A	Introduction to Cryptography	3	0	0	3	S
IV	BCA417A	Backend Development (on Node)	4	0	0	4	S
IV	BCA418A	Applications of Blockchain Cryptocurrencies	3	0	0	3	S
V	BCA419A	Competitive Programming	3	0	0	3	S
V	BCA420A	Smart Contract Development	3	0	0	3	S
			29		2	29	

SEMESTER I							
S. No.	Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1	BCA412A/ 412B	Object Oriented Programming (Java Based)	3	0	2	4	S
2	BCA925A	Programming in C	2	0	0	2	CORE
3	BCA926A	Programming in C Lab	0	0	4	2	CORE
4	BCA113B	Operating System	4	0	0	4	CORE
5	DCH010A	Environmental Education	2	0	0	2	VAC
6	BCO570A	Digital Data and AI Literacy	0	0	4	2	SEC
7	DEN001C/ D	Communication Skills/ Communication Skills Lab	1	0	2	2	AEC
8	JIC002A	Entrepreneurship Development	0	0	2	1	SEC
Total			12	0	14	19	

SEMESTER II							
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1	BCA413A	Web Development	3	0	0	3	S
2	BCA114D/ BCA118C	Database Management Systems/Lab	3	0	4	5	CORE
3	BCA414A	Data Structures	4	0	0	4	S
4	IKS001A	Inculcation of Human Values and Professional Ethics in Higher Education Institutions	2	0	0	2	VAC
5	DCO018A	Advance Excel	0	0	4	2	SEC
6	DEN002C /DEN002 D	Professional Skills / Lab	1	0	2	2	AEC
7		Departmental Elective-2	3	0	0	3	DE
Total			15	0	10	20	

SEMESTER III							
S.No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1	BCA415A	Algorithms	3	0	0	3	S
2		Departmental Elective-3	3	0	2	4	DE
3	BCA416A	Introduction to Cryptography	3	0	0	3	S
4		Mathematics in India	2	0	0	2	VAC
5		Leadership and Management Skills	1	0	2	2	AEC
6		Generative Artificial Intelligence Tools	0	0	4	2	SEC
7		Open Elective/MOOC	3	0	0	3	MD
		Total	15	0	08	19	

SEMESTER IV							
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1	BCA300A	Python Programming	3	0	0	3	CORE
2	BCA301A	Python Programming Lab	0	0	4	2	CORE
3	BCA417A	Backend Development (on Node)	4	0	0	4	S
4		Universal Human Values	2	0	0	2	VAC
5		Health and Yoga	1	0	2	2	AEC
6		Prompt Engineering for coding	0	0	4	2	SEC
7	BCA418A	Applications of Blockchain Cryptocurrencies (BCA418A)	3	0	0	3	S
8	Open Elective/Mooc		3	0	0	3	GE
Total			16	0	10	21	

SEMESTER V							
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1	BCA135A	Computer Network	3	0	0	3	CORE
2		Departmental Electives 5	3	0	0	3	CORE
3		Departmental Electives 6	2	0	2	3	CORE
4		Departmental Electives 5	3	0	0	3	CORE
5	BCA419A	Competitive Programming	3	0	0	3	S
6	BCA147B	Major Project (IOT/Mobile app/AI/ML/Soft) (IOT/Mobile app/AI/ML/Soft)	0	0	6	3	CORE
7		Smart Contract Development (BCA420A)	3	0	0	3	S
8		Open Elective/Mooc	3	0	0	3	GE
		Total	20	0	08	24	

Semester – VI					
Course Code	Course Name	L (Hr.)	P (Hr.)	Credits	Type
BCA165A	Industrial Training/Internship	0	0	16	CORE

SEMESTER VII							
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1		Literature Review	3	0	0	3	CORE
2		Statistical Analysis using R	3	0	4	5	CORE
3		Data Analytics	3	0	4	5	CORE
4		Scientific Paper Writing	3	0	0	3	CORE
5		Research Project-I/ Research Internship Report and viva voce	0	0	8	4	CORE
Total			12	0	16	20	

Semester – VIII					
Course Code	Course Name	L (Hr.)	P (Hr.)	Credits	Type
	Research Project/Capstone Project/ Dissertation (For Research Track)	0	40	20	CORE