



JECRCTM
UNIVERSITY
BUILD YOUR WORLD

School of Computer Application
Scheme & Syllabus
of
Bachelor of Computer Applications (BCA)
Specialization- Cloud Computing & Full-stack
Development
(In Association with IBM)
Academic Program

July 2024-27

JECRC University, Jaipur

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

303905

Total Credits for the Batch 2024-27 = 120 Credits

Semester wise credit						Credits
I	II	III	IV	V	VI	Total
17	27	23	19	18	16	120

Cloud Fullstack-IBM Specializations Subjects (BCA)							
Semester	Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
II	BCA206A	IBM Cloud Fundamental	3	0	0	3	S
III	BCA207A	Angular JS	3	0	0	3	S
III	BCA208A	Spring Framework	2	0	0	2	S
IV	BCA209A	DevOps Fundamentals and Design Thinking	3	0	0	3	S
IV	BCA211A	Dockers and Kubernetes Implementation	3	0	0	3	S
V	BCA212A	Deployment of Private Cloud	4	0	0	4	S
V	BCA213A	REST API and IBM Watson Studio	3	0	0	3	S
			21			21	

Semester – I								
S. No.	Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Contact Hours	Type
1	BCA205A	Web Development Using HTML, Java Script. NODE JS	4	0	0	4	4	S
2	BCA302A	Fundamental of Computers & Programming in C	3	0	0	3	3	CORE
3	BCA303A	Fundamental of Computers & Programming in C Lab	0	0	4	2	4	CORE
4	DCH001A/ BCA113B	Environmental Studies/ Operating System	2	0	2	3	3	AEC/ CORE
5	DEN001A/ DEN001B	Communication Skills/ Communication Skills Lab	2	0	2	3	3	SEC
6	DIN001A	Culture Education-I	2	0	0	2	2	AEC
Total			13	0	8	17	19	

Semester – II								
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Contact Hours	Type
1	BCA114B	Database Management Systems	3	0	0	3	3	CORE
2	BCA126B	Object Oriented Programming Using C++	3	0	0	3	3	CORE
3	BCA113B/ DCH001A	Operating System/Environmental Studies	2	0	2	3	3	CORE
4	BCA300A	Python Programming	3	0	0	3	3	CORE
5	BCA130B	Project Lab Using C++	0	0	4	2	4	CORE
6	BCA301A	Python Programming Lab	0	0	4	2	4	CORE
7	BCA118B	Database Management Systems Lab	0	0	4	2	4	CORE
8	DIN002A	Culture Education-II	2	0	0	2	2	AEC
9	DEN002A/ DEN002B	Professional Skills/Professional Skills Lab	2	0	2	3	5	SEC
10	BCA206A	IBM Cloud Fundamental	3	0	0	3	3	S
11	JIC002A	Entrepreneurship Development	0	0	2	1	2	SEC
Total			18	0	18	27	36	

Semester – III								
S.No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Course Hours	Type
1	BCA305 A	Data Structures and Algorithms -I	3	0	0	3	3	CORE
2	BCA207 A	Angular JS	3	0	0	3	3	S
3	BCA133B	Programming in JAVA	3	0	0	3	3	CORE
4	BCA208 A	Spring Framework	2	0	0	2	2	S
5	BCA306 A	Data Structures and Algorithms -I Lab	0	0	4	2	4	CORE
6	BCA136B	Project Lab using JAVA	0	0	4	2	2	CORE
7	BCA176 A/BCA12 1B	Software Testing/Lab	4	0	2	5	6	CORE
8	DEN003 A	Life Skills - 1 (Personality Development)	1	0	2	2	4	SEC
9	DIN003A	Value Education and Ethics -1	0	0	2	1	2	AEC
		Total	16	0	14	23	29	

Semester – IV								
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Contact Hours	Type
1	BCA135A	Computer Network	4	0	0	4	4	CORE
2	BC210A	Web Services	3	0	0	3	3	S
3	BCA209A	DevOps Fundamentals and Design Thinking	3	0	0	3	3	S
4	DMA003A	Life Skills - 2 (Aptitude)	1	0	2	2	4	SEC
5	DIN004A	Value Education and Ethics -2	1	0	0	1	2	AEC
6	Docker and Kubernetes Implementation (BCA211A)		3	0	0	3	3	S
7	Open Elective		3	0	0	3	3	GE
		Total	18	0	2	19	22	

Semester – V								
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Contact Hours	Type
1	BCA212A	Deployment of Private Cloud	4	0	0	4	4	S
2	BCA147B	Major Project	0	0	4	2	4	CORE
3	REST API and IBM Watson Studio (BCA213A)		3	0	0	3	3	S
4	Departmental Elective –III		3	0	1	4	4	E
5	Open Elective		3	0	0	3	3	GE
6	Technical Research Paper Writing (BCA600A)		0	0	4	2	2	CORE
		Total	13	0	9	18	20	

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

List of courses for Electives

Course Code	Course Name	Credit	Course Code	Course Name	Credit
Specialization (Software Development)			Specialization (Data Science and Analytics)		
BCA309A	Programming in ASP.Net	3	BCA193A	Programming in R	3
BCA181A	Professional Java	3	BCA194A	Data Science and Analytics	3
BCA141A	Android Application Development	3	BCA161A	Big Data Analytics	3
BCA183A	Programming in ASP.Net Lab	1	BCA195A	Data warehousing and Data Mining	3
BCA145A	Android Application Development Lab	1	BCA196A	Programming in R Lab	1
BCA184A	Professional Java Lab	1	BCA197A	Data warehousing and Data Mining lab	1
BCA176A	Software Testing	3	BCA121B	Software Testing Lab	1
Specialization (System & Network Administration)			Specialization (Cloud, process automation and blockchain)		
BCA185A	Introduction to Linux System Administration	3	BCA164A	Introduction to Salesforce	3
BCA186A	Linux Server Administration and Automation	3	BCA172A	Robotics Process Automation	3
BCA187A	Software Development Using OpenShift Architecture	3	BCA198A	Artificial Intelligence and Machine Learning	3
BCA188A	Network Virtualization Using OpenStack	3	BCA199A	Introduction to Salesforce lab	1
DMA051A	Mathematical Foundation	3	BCA200A	Artificial Intelligence and Machine Learning Lab	1
BCA601A	Discrete Mathematics	3	BCA201A	Robotics Process Automation Lab	1
BCA602A	Statistical Analysis and Methods	3	BCA251A	Google Cloud Readiness	3