

JECRCTM
UNIVERSITY
BUILD YOUR WORLD

Faculty of IT & Computer Application
Scheme

Bachelor of Computer Applications (BCA)



Specialization in Cloud Computing in Association with Microsoft



Academic Programme - July 2021-22



Semester wise credit						Credits	Minimum Credit for degree
I	II	III	IV	V	VI	Total	
22	23	23	24	24	16	132	132


Semester – I							
Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type	Click on Icon to View Syllabus
BCA201	Operating System	3	0	0	3	CORE	
BCA202	Programming in C	3	1	0	4	CORE	
MSA001	Microsoft Certified: Azure Fundamentals Microsoft Certified: Azure Data Fundamentals	3	0	0	3	CORE	
BCA204	Computational Thinking and Problem Solving	2	1	0	3	F	
BCA205	Computer Programming Lab	0	0	2	1	CORE	
BCA206	Computer Systems Organization lab	0	0	2	1	CORE	
BCA207	Computational Thinking and Problem Solving Lab	0	0	2	1	F	
BCA208	Seminar	0	0	2	1	CORE	
	Communication Skills	2	0	2	3	ID	
	Culture Education-I	2	0	0	2	ID	
	Total	15	2	10	22		

Semester – II

Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type	Click on Icon to View Syllabus
BCA209	Database Management System	3	1	0	4	CORE	
BCA210	Object Oriented Programming using C++	3	1	0	4	F	
BCA212	Database Management System Lab	0	0	2	1	CORE	
BCA213	Project Lab using C++	0	0	2	1	F	
MSA002	Microsoft Certified: Security, Compliance, and Identity Fundamentals	2	0	0	2	CORE	 3microsoft-certified-security-compliance-ar
MSA003	Microsoft Certified: Azure AI Fundamentals	2	0	0	2	CORE	 4microsoft-certified-azure-ai-fundamental
	Environmental Studies	2	0	0	2	ID	
	Culture Education-II	2	0	0	2	F	
	Professional Skills	2	0	0	2	F	
	Open Elective-I	3	0	0	3	GE	
	Total	19	2	4	23		

Semester – III							
Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type	Click on Icon to View Syllabus
BCA216	Data Structures and Algorithms	3	1	0	4	F	
BCA217	Programming in JAVA	3	1	0	4	CORE	
BCA219	Project Programming Lab in PHP	0	0	2	1	CORE	
BCA220	Data Structures Lab	0	0	2	1	F	
BCA221	Project Lab using JAVA	0	0	2	1	CORE	
MSA004	Microsoft Certified: Azure Developer Associate	3	0	0	3	CORE	 5microsoft-certified-azure-developer-assc
MSA005	Microsoft Certified: Azure Data Scientist Associate	3	0	0	3	CORE	 6microsoft-certified-azure-data-scientist-ã
	Life Skills -I (Aptitude)	1	0	0	1	F	
	Value Education-I	1	0	0	1	F	
	Life Skills -I Lab	0	0	2	1	F	
	Open Elective-II	3	0	0	3	GE	
	Total	17	2	8	23		

Semester – IV							
Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type	Click on Icon to View Syllabus
BCA222	Advance Java	3	0	0	3	CORE	
BCA223	Programming in Python	3	0	0	3	CORE	
BCA224	Software Engineering	3	0	0	3	F	
BCA227	Project Lab in Advance Java	0	0	2	1	CORE	
BCA228	Project Lab in Python	0	0	2	1	CORE	
BCA226	Project Lab (Web Technologies)	0	0	2	1	F	
MSA006	Microsoft Certified: Azure Database Administrator Associate	3	0	0	3	F	 7microsoft-certified-azure-database-admi
MSA007	Microsoft Certified: Azure Data Engineer Associate	3	0	0	3	CORE	 6microsoft-certified-azure-data-scientist-;
	Life Skills - II (Personality development)	1	0	0	1	F	
	Value Education-II	1	0	0	1	F	
	Life Skills - II Lab	0	0	2	1	F	
	Open Elective-III	3	0	0	3	GE	
	Total	20	0	8	24		

Semester – V							
Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type	Click on Icon to View Syllabus
BCA229	Computer Networks	3	0	0	3	CORE	
BCA230	Cryptography and Cyber Security	3	0	0	3	CORE	
BCA231	Mobile Application Development	2	0	0	2	F	
BCA232	Mobile Application Development Lab	0	0	2	1	F	
BCA233	Cryptography Lab	0	0	2	1	CORE	
BCA234	UNIX and Shell Programming Lab	0	0	2	1	CORE	
BCA235	Project	0	0	2	1	CORE	
MSA008	Microsoft Certified: Azure Security Engineer Associate	3	0	0	3	CORE	 8microsoft-certified- azure-security-engine
	Elective – I I (202/300)	3	0	0	3	CORE	
	Elective – I II(202/300)	3	0	0	3	CORE	
	Open Elective-IV	3	0	0	3	GE	
	Total	20	0	8	24		

Semester – VI					
Course Code	Course Name	L (Hr.)	P (Hr.)	Credits	Type
BCA242	Industrial Training/Internship/Dissertation Project Presentation	0	0	16	CORE

List of courses for Electives

Electives-(202)		Electives-(300)	
Course Code	Course Name	Course Code	Course Name
BCA237	Programming in ASP.Net	BCA250	Data warehousing and Data Mining
BCA238	Programming in R	BCA251	Data Science and Analytics
BCA239	Programming in C#	BCA252	Big Data Analytics
BCA240	Professional Java	BCA253	Cloud Computing
BCA241	Programming in ASP.Net Lab	BCA254	Introduction to Salesforce
BCA242	Programming in R Lab	BCA255	Artificial Intelligence and Expert System
BCA243	Programming in C# Lab	BCA256	Design & Analysis of Algorithms
BCA244	Professional Java Lab	BCA257	Compiler Design
BCA245	MEAN Fullstack Development	BCA258	Theory of Computation
BCA246	Introduction to Linux System Administration	BCA259	Robotics Process Automation
BCA247	Linux Server Administration and Automation		
BCA248	Software Development Using OpenShift Architecture		
BCA249	Network Virtualization Using OpenStack		