



JECRCTM
UNIVERSITY
BUILD YOUR WORLD

Faculty of IT & Computer Application

Scheme of

BCA (Bachelor of Computer Applications)-Data Science & Data Analytics

(In Association with Samatrix)

Academic Programme- July 2021-22

Total Credits for the Batch 2021-24 = 132 Credits

Semester wise credit						Credits	Minimum Credit for degree
I	II	III	IV	V	VI	Total	
22	22	23	25	24	16	132	132

Semester – I							Semester – II						
Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
BCA201	Operating System	3	0	0	3	CORE	BCA209	Database Management System	3	1	0	4	CORE
BCA202	Programming in C	3	1	0	4	CORE	BCA210	Object Oriented Programming using C++	3	1	0	4	F
BCA204	Computational Thinking and Problem Solving	2	1	0	3	F	BCA212	Database Management System Lab	0	0	2	1	CORE
BCA205	Computer Programming Lab	0	0	2	1	CORE	BCA213	Project Lab using C++	0	0	2	1	F
BCA206	Computer Systems Organization lab	0	0	2	1	CORE	BCAD102	Data Analysis using Python	3	0	0	3	CORE
BCA207	Computational Thinking and Problem Solving Lab	0	0	2	1	F		Environmental Studies	2	0	0	2	ID
BCA208	Seminar	0	0	2	1	CORE		Culture Education-II	2	0	0	2	F
BCAD101	Overview of Data Science & Foundation of Data Analysis	3	0	0	3			Professional Skills	2	0	0	2	F
	Communication Skills	2	0	2	3	ID		Open Elective-I	3	0	0	3	GE
	Culture Education-I	2	0	0	2	ID							
	Total	15	2	10	22			Total	18	2	4	22	

Semester – III							Semester – IV						
Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
BCA216	Data Structures and Algorithms	3	1	0	4	F	BCA222	Advance Java	3	0	0	3	CORE
BCA217	Programming in JAVA	3	1	0	4	CORE	BCA224	Software Engineering	3	0	0	3	F
BCA219	Project Programming Lab in PHP	0	0	2	1	CORE	BCA225	Web Technologies	3	0	0	3	F
BCA220	Data Structures Lab	0	0	2	1	F	BCA226	Project Lab (Web Technologies)	0	0	2	1	F
BCA221	Project Lab using JAVA	0	0	2	1	CORE	BCA227	Project Lab in Advance Java	0	0	2	1	CORE
BCAD103	Probabilistic Modeling & Reasoning	3	0	0	3	CORE	BCAD105	Foundation of Machine Learning & Pattern Recognition	3	0	0	3	CORE
BCAD104	R Programming for Data Science & Analysis	3	0	0	3	CORE	BCAD106	Data Visualization using Tableau	3	0	0	3	CORE
	Life Skills -I (Aptitude)	1	0	0	1	F		Project 1	0	0	4	2	CORE
	Value Education-I	1	0	0	1	F		Life Skills - II (Personality development)	1	0	0	1	F
	Life Skills -I Lab	0	0	2	1	F		Value Education-II	1	0	0	1	F
	Open Elective-II	3	0	0	3	GE		Life Skills - II Lab	0	0	2	1	F
								Open Elective-III	3	0	0	3	GE
	Total	17	2	8	23			Total	20	0	10	25	

Semester – V							Semester – VI					
Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type	Course Code	Course Name	L (Hr.)	P (Hr.)	Credits	Type
BCA229	Computer Networks	3	0	0	3	CORE	BCA242	Industrial Training/Internship/Dissertation Project Presentation	0	0	16	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						
	Elective – I (202/300)	3	0	0	3	CORE						
BCAD107	Big Data Analytics with Hadoop	3	0	0	3	CORE						
BCAD108	SCALA for Data Science	3	0	0	3	CORE						
	Open Elective-IV	3	0	0	3	GE						
	Total	20	0	8	24							

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		