

BACHELOR OF COMPUTER APPLICATION BCA

Data Science and Information Security
In Association with TCS iON

Programme Scheme

Programme Code:CSDB
Duration: 3 Years

EFFECTIVE FROM SESSION: 2021-2022



Department of Computer Science and Information Technology
Faculty of Engineering and Technology
CHHATRAPATI SHIVAJI MAHARAJ UNIVERSITY
PANVEL, NAVI MUMBAI

SEMESTER I

Course Code	Course Title	Hours/Week			Theory Marks		Practical Marks		Total Marks	Credit
		L	T	P	IA	ES E	IA	ESE		
CSAB1020	Computer Fundamental & Office Automation	3	1	-	30	70	-	-	100	4
CADB 1010	Programming Principle & Algorithm	3	1	-	30	70	-	-	100	4
MGTG1000	Principle of Management - I	3	-	-	30	70	-	-	100	3
IHPB1000	Business English	2	1	-	30	70	-	-	100	3
MTHG1000	Mathematics - I	3	1	-	30	70	-	-	100	4
CSAB1021	Office Automation Lab	-	-	4	-	-	15	35	50	2
CSDB1011	Computer Laboratory and Practical Work of Programming Principle & Algorithm	-	-	4	-	-	15	35	50	2
TOTAL		14	4	8	150	350	30	70	600	22

tcsion

SEMESTER II

Course Code	Course Title	Hours/Week			Theory Marks		Practical Marks		Total Marks	Credit
		L	T	P	IA	ESE	IA	ESE		
CSDB2010	C-Programming	4			30	70			100	4
CSAB2020	Database Management System (DBMS)	3			30	70			100	3
CSDB2020	Introduction to Data Science	3			30	70			100	3
CSDB2030	Digital Electronics and Computer Organisation	3			30	70			100	3
IHPB2020	Information Security	2		2	30	70	15	35	150	4
MTHG2010	Element of Statistics	3	1		30	70			100	4
CSDB2011	Computer Laboratory and Practical Work of C			4			15	35	50	2
CSAB2021	Database Management System (DBMS) Lab			4			15	35	50	2
TOTAL		18	2	10	180	420	45	105	750	25

tcsion

SEMESTER III

Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
		L	T	P	IA	ESE	IA	ESE		
CSAB3020	Object Oriented Programming with 'C++	3		-	30	70	-	-	100	3
CSDB3010	Data Structure Using C	3		-	30	70	-	-	100	3
CSAB3040	Software Engineering	3		-	30	70	-	-	100	3
CSDB3020	Computer Architecture & Assembly Language	3		-	30	70	-	-	100	3
CSAB3030	Operating System	3		-	30	70	-	-	100	3
IHPB3020	Applied Cloud Computing	2		2	30	70	15	35	150	4
CSAB3021	Object Oriented Programming with 'C++ Lab	-	-	4	-	-	15	35	50	2
CSAB3031	OS Lab	-	-	4	-	-	15	35	50	2
CSDB3011	Computer Laboratory and Practical Work of DS		-	4	-	-	15	35	50	2
TOTAL		17	0	14	180	420	45	105	650	25



SEMESTER IV

Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
		L	T	P	IA	ESE	IA	ESE		
CSAB4010	Python Programming	3	1	-	30	70	-	-	100	4
CSDB4010	Computer Graphics & Multimedia Application	3	1	-	30	70	-	-	100	4
CSDB4020	Java Programming and Dynamic Webpage Design	3	-	-	30	70	-	-	100	3
**	Elective-I	4	-	-	30	70	-	-	100	4
IHPB4020	Data Warehousing & Data Mining	2	-	2	30	70	15	35	150	4
CSAB4011	Python Programming Lab	-	-	4	-	-	15	35	50	2
CSAB4031	JAVA Programming Lab	-	-	4	-	-	15	35	50	2
CSDB4011	CG Lab	-	-	4	-	-	15	35	50	2
TOTAL		15	2	14	150	350	45	105	650	25



Elective 1	1. Big Data
	2. E-Commerce

SEMESTER V

Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
		L	T	P	IA	ESE	IA	ESE		
CSAB5010	Mobile Application Development	3	1	-	30	70	-	-	100	4
MTHG5000	Mathematics-III	3	-	-	30	70	-	-	100	3
IHPB5030	Practical approach to Cyber Security	2	-	2	30	70	15	35	150	4
CSAB5030	Computer Networking	3	-	-	30	70	-	-	100	3
**	Elective - 2	3	-	-	30	70	-	-	100	3
CSAB5021	Mobile Application Development Lab	-	-	4	-	-	15	35	50	2
**	Elective - 2 Lab	-	-	4	-	-	15	35	50	2
	Project Work - 1	-	-	8	-	-	15	35	50	4
	TOTAL	14	1	18	150	350	60	140	700	25

Elective 2

1. Dynamic Web Page Designing using C#
2. Numerical Methods

SEMESTER VI

BCA 3 Year - Semester VI

	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
		L	T	P	IA	ESE	IA	ESE		
CSDB6010	Computer Network Security	3	1	0	30	70			100	4
**	Elective 3	3	-	0	30	70			100	3
IHPB6030	Remote Internship Opportunity in TCS	0	0	20			50	50	200	10
	TOTAL	6	1	20	60	140	50	50	400	17

Elective 3

1. Image Processing
2. Knowledge Management