Bachelor of Computer Applications - (2022-2023)

Sem.	Semester Course Code, Course Name (L-T-P) Credits						Community Service	GP	Hrs. Per week			Credits
									L	T	P	
1	MAL153 Mathematics-I (3-1-0)4	CLL101 Effective Communication -I (2-0-1)2.5	BCL103 Programming Fundamentals -I (2-0-4)4	BSL102 Principles of Management (2-0-2)3	CLL120 Human Values & Professional Ethics (2-0-0-)2		BCS101 CS-I	BCR118 GP – 1 (1-0-0-) 1 Credit	12	1	7	16.5
2	MAL112 Basics of Statistics (3-1-0)4	CLL102 Effective Communication -II (2-0-1)2.5	CHL100 Environmental Studies (3-0-0-)3	BCL104 Programming Fundamentals-II (2-0-4)4	BCL110 Problem Solving and Design Thinking (2-0-2)3	Foreign Language Elective 1 (1-2-0)3	BCS102 CS-II (140Hrs)* 2 Credit	BCR119 GP- 2 (1-0-0-) 1 Credit	14	3	7	22.5
	BCT201 Summer Training - I											2
3	BCL201 Data Structures (3-0-2)4	BCL203 DBMS (3-0-2)4	PCL102 Psychology for living (2-1-0)3	BCL205 Digital Electronics & Computer Architecture (3-0-2)4	Open Elective – 1 (3-0-0)3	Program Elective-1 (2-0-4-)4	BCS201 CS-III	BCR218 GP – 3 (1-0-0) 1 Credit	17	1	10	23
4	BCL202 Computer Networks (3-0-2)4	BCV201 Skill Development - 1 (1-0-2)2	BCL204 Operating System (3-0-2)4	Open Elective – 2 (3-0-0)3	Program Elective-2 (2-0-4)4	BCL206 Analysis and Design of Algorithms (3-0-2)4	BCS202 CS-IV (140Hrs)* 2 Credit	BCR 219 GP-4 (1-0-0-) 1 Credit	16	0	12	24
Summer	BCT301 Summer Training - II											3
5	BSL101 Entrepreneurship (2-0-2)3	BCL303 Introduction to AI & ML (3-0-2)4	BCL305 Software Engineering (3-0-2-)4	Program Elective-3 (2-0-4-)4	BCV301 Skill Development - 2 (1-0-2)2	BCD301 Project – 1 Semester at Industry/Startup Project (0-0-8)4	BCS301 CS-V	BCR318 GP-5 (1-0-0) 1Credit	12	0	20	22
6	Program Elective-4 (2-0-4)4	Open Elective-3 (3-0-0)3	BCD302 Project – 2 Semester at Industry/Startup Project (0-0-12)6				BCS302 CS-VI (140Hrs) 2 Credit	BCR319 GP-6 (1-0-0) 1Credit	06	0	16	16
						Total			77	5	72	129

* Students can utilize the summer/winter break period to complete the remaining 140 Community Service hours every year

The overall credits structure of BCA

Credits Structure		Credits	Total Credits
Category			
Programme Core (PC) + Compulsory Courses		66	66
Electives	Programme Electives (PE)	16	28
	Open Electives (OE)	12	
Ability Enhancement Courses (AEC)		3	16
Skill Enhancement		2	4
Industry Internship + Project		15	15
	TOTAL	129	129

A.   Programme Core (PC) + Compulsory Courses

S N	Code	Course Name	L-T-P	Credits
1.	MAL153	Mathematics -1	3-1-0	4
2.	BCL103	Programming Fundamentals – I	2-0-4	4
3.	BCL105	Programming Fundamentals – II	2-0-4	4
4.	MAL304N	Probability and Statistics	3-1-0	4
5.	BCL201	Data Structures	3-0-2	4
6.	BCL202	Computer Networks	3-0-2	4
7.	BCL203	DBMS	3-0-2	4
8.	BCL204	Operating Systems	3-0-2	4
9.	BCL205	Digital Electronics & Computer Architecture	3-0-2	4
10.	BCL206	Analysis and Design of Algorithms	3-0-2	4
11.	BCL303	Introduction to AI and ML	3-0-2	4
12.	BCL305	Software Engineering	3-0-2	4
13.	BCL110	Problem Solving and Design thinking	2-0-2	3
14.	BSL101	Entrepreneurship	2-0-2	3
15.	BCL102	Principles of Management	2-0-2	3
16.	PCL102	Phycology for living	2-0-4	4
17.	CLL102	Effective Communication – I	2-1-0	2.5
18.	CLL101	Effective Communication – II	2-1-0	2.5
		Total Credits		**66**

B. **Programme Electives (PE)**

S. No.	Code	Course Name	L-T-P	Credits
PE-I				
BCA with Specialization in Animation and Gaming				
1	BCL211	Game Art Essentials	2-0-4	4
2	BCL222	Fundamentals of Web application development	2-0-4	4
3	BCL311	Basics of 3D Animation	2-0-4	4
4	BCL312	Foundations of 2D Game Development	2-0-4	4
BCA with Specialization in Web Application Development				
1	BCL221	UI / UX Design principles	2-0-4	4
2	BCL222	Fundamentals of Web application development	2-0-4	4
3	BCL321	Fundamentals of Mobile application development	2-0-4	4
4	BCL322	Software prototyping, usability & testing	2-0-4	4
BCA with Specialization in Mobile Applications				
1	BCL213	Android and iOS Operating Systems	2-0-4	4
2	BCL214	Flutter for Mobile App Development	2-0-4	4
3	BCL313	Mobile Arch & app development	2-0-4	4
4	BCL314	Mobile Security	2-0-4	4
Foreign Language and open Electives				
11	CLL220	German – I	1-2-0	3
12	CLL200	French – I	1-2-0	3
13	CLL270	Spanish – I	1-2-0	3
		Open Elective -1	3-0-0	3
		Open Elective -2	3-0-0	3
		Open Elective -3	3-0-0	3

C. **Ability Enhancement Courses (AEC)**

S. No.	Code	Course Name	L-T-P	Credits
1	ASL140	Environmental Studies	3-0-0	3
2	CLL120	Human Values and Ethics	3-0-0	3
3	BCR118 BCR119 BCR218 BCR219 BCR318 BCR319	GP – 1 GP – 2 GP – 3 GP – 4 GP – 5 GP – 6		6
4	BCS101 BCS102 BCS201 BCS202 BCS301 BCS302	Community Service		5

		Total Credits		17

S. No.	Code	Course Name	L-T-P	Credits
1.	BCV201	Skill Deveoplement-1	1-0-2	2
2.	BCV301	Skill Development-2	1-0-2	2
3.	BCD301	Project – 1	0-0-8	4
4.	BCD302	Project – 2	0-0-12	6
5.	BCT201	Summer Internship – I	--	2
6.	BCT301	Summer Internship - II	--	3
		Total Credits		**19**

Outline of Choice based credit system (CBCS):

1 **Programme Core:** A course, which should compulsorily be studied by a student as a core requirement is termed as a programme core course.

2 **Programme Elective:** Elective courses may be offered by the main discipline/subject of study is referred to as Programme Elective. The University may also offer Programme related elective courses of interdisciplinary nature (to be offered by main discipline/subject of study).

3 **Generic (or Open) Elective:** An elective course generally chosen from an unrelated discipline/subject, with an intension to seek exposure is called a Generic (or Open) Elective.

4 **Ability Enhancement Courses (AEC):** These are the courses based upon the content that leads to knowledge enhancement. They are English/Communication courses.

5 **Skill Enhancement/Project/Dissertation:** The Project work/ Dissertation based on application of Mathematics, Computer applications, Research project and new innovative ideas.