

Bachelor of Computer Applications (BCA)
Total Credit :124

FIRST SEMESTER						SECOND SEMESTER					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
MAS1107	Fundamentals of Mathematics	3	1	0	4	MAS1208	Basic Statistics and Probability	3	1	0	4
LLC1114	Technical Communication	2	0	0	2	CAP1201	Data Structures	3	1	0	4
CAP1103	C Programming	3	1	0	4	CAP1202	Database Management System	3	1	0	4
CAP1104	Fundamentals of Computers & Digital Systems	3	1	0	4	CAP1203	Principle of Programming Languages	3	1	0	4
CAP1105	Introduction to Web Programming	3	1	0	4	CAP1204	Object-Oriented Programming using C++	3	1	0	4
CAP1130	C Programming Lab	0	0	2	1	CAP1231	Database Management System Lab	0	0	2	1
CAP1132	Web Programming Lab	0	0	2	1	CAP1232	Data Structures using C++ Lab	0	0	2	1
CHY1003	Environmental Science	2	0	0	2						
		16	4	4	22			15	5	4	22
Total Contact Hours (L + T + P)		24				Total Contact Hours (L + T + P)		24			
THIRD SEMESTER						FOURTH SEMESTER					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
CAP2101	Computer Organization and Architecture	3	1	0	4	CAP2202	Python Programming	3	1	0	4
CAP2104	Data Communication & Protocols	3	1	0	4	CAP2203	Software Engineering	3	1	0	4
CAP2105	Java Programming	3	1	0	4	CAP2204	Data Mining & Visualization	3	1	0	4
CAP2106	Operating Systems	3	1	0	4	CAP22XX	Program Elective II	3	1	0	4
CAP21XX	Program Elective I	3	1	0	4	XXXXXXX	Open Elective / MOOC	3	0	0	3
CAP2132	Java Programming Lab	0	0	2	1	CAP2231	Python Programming Lab	0	0	2	1
CAP2133	Operating System Lab	0	0	2	1	CAP22XX	Program Elective III	0	0	2	1
		15	5	4	22			15	4	4	21
Total Contact Hours (L + T + P)		24				Total Contact Hours (L + T + P) + OE		23			

FIFTH SEMESTER						SIXTH SEMESTER					
Code	Course Name	L	T	P	C	Code	Course Name	L	T	P	C
CAP3102	Mobile Application Development	3	1	0	4	CAP3204	Wireless Communication	3	1	0	4
CAP3106	Machine Learning	3	1	0	4	CAP3205	Unix and Shell Programming	3	1	0	4
CAP31XX	Program Elective IV	3	1	0	4	CAP32XX	Program Elective VI	3	1	0	4
CAP31XX	Program Elective-V	3	0	0	3	CAP32XX	Program Elective-VII	3	0	0	3
CAP3131	Mobile Application Development Lab	0	0	2	1	CAP32XX	Program Elective-VIII	0	0	2	1
CAP3132	Machine Learning Lab	0	0	2	1	CAP3270	Major Project	0	0	4	2
CAP3170	Minor Project	0	0	2	1						
CAP3110	Aptitude and Technical Development	1	0	0	1						
		13	3	6	19			12	3	6	18
Total Contact Hours (L + T + P)		22				Total Contact Hours (L + T + P)		21			

BCA	Specialization (Data Science)	Specialization (Cyber Security)
Program Elective I		
CAP2140 Artificial Intelligence for Problem Solving	CAP2141 Introduction to Data Science	CAP2142 Introduction of Cyber Security
Program Elective II		
CAP2240: Introduction to Network Security	CAP2241 Intelligent Systems	CAP2240: Introduction to Network Security
Program Elective III		
CAP2242: Data Mining and Visualization Lab	CAP2242: Data Mining and Visualization Lab	CAP2243 : Network Security Lab
Program Elective IV		
CAP3143: Internet of Things	CAP3143: Internet of Things	CAP3143: Internet of Things
CAP3144: Cryptography Fundamentals	CAP3148: Natural Language Processing	CAP3146: Cyber Law
CAP3145: Real Time Systems	CAP3149: Computer Vision	CAP3147: Cloud Security
Program Elective V		
CAP3150: Cloud Computing & Applications	CAP3151: Business Data Analytics	CAP3152: Information Security and Systems

Program Elective VI		
CAP3240: Software Testing & Quality Assurance	CAP3246: Robotics & AI	CAP3243: Ethical hacking
CAP3241: Cyber Security and Forensics	CAP3247: Embedded Systems	CAP3244: Wireless Security
CAP3242: Distributed System	CAP3248: Statistical Inference	CAP3245: Cyber Forensics
Program Elective VII		
CAP3249 : Big Data	CAP3250: Deep Learning	CAP3251: Cyber Physical System
Program Elective VIII		
CAP3252 : Unix and Shell Programming Lab	CAP3253: Deep Learning Lab	CAP3252 : Unix and Shell Programming Lab

*students need to opt respective specialization electives in order to get specialization