

STUDY & EVALUATION SCHEME
BCA (BACHELOR OF COMPUTER APPLICATION)
SPECIALIZATION: DATA SCIENCE AND ARTIFICIAL INTELLIGENCE
I YEAR: I SEMESTER

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C	COURSE TYPE	FACULTY
THEORY											
1	UCS1001	Problem Solving using Computer	4	0	0	40	60	100	4	Major	Own
2	UCS1003	Computer and C Fundamentals	3	0	0	40	60	100	3	Major	Own
3	UCS1501SE	Digital Aptitude and Logic	2	0	0	40	60	100	2	Skill	Own
4	UMA1007	Basic Mathematics-I	3	2	0	40	60	100	4	Major	Other
5	UMA1008	Introduction to Management	3	1	0	40	60	100	4	Major	Other
6	UBS1401	Food, Nutrition and Hygiene	2	0	0	100	-	100	2	Co-Curricular	Other
PRACTICAL/TRAINING/PROJECT											
7	UCS1201	Software Lab using Python	0	0	4	80	20	100	2	Major	Own
8	UCS1204	Computer and C Fundamentals Lab	0	0	4	80	20	100	2	Major	Own
9	UCS1502SE	Digital Aptitude and Logic Lab	0	0	2	80	20	100	1	Skill	Own
TOTAL			17	3	10	540	360	900	24		

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I YEAR: II SEMESTER

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C	COURSE TYPE	FACULTY
THEORY											
1	UCS2001	Operating Systems	4	0	0	40	60	100	4	Major	Own
2	UCS2003	Structured Programming using C	4	0	0	40	60	100	4	Major	Own
3	UCS2015	Data Visualization	3	1	0	40	60	100	4	Major	Own
4	UMA2006	Basics Mathematics-II	3	2	0	40	60	100	4	Major	Other
5		Minor Elective-I	4	0	0	40	60	100	4	Major	Other
6	UEG2504SE	Functional English	2	0	0	40	60	100	2	Skill	Other
7	UPC2401	First Aid and Health	2	0	0	100	-	100	2	Co-Curricular	Other
PRACTICAL/TRAINING/PROJECT											
7	UCS2201	Operating Systems Lab	0	0	4	80	20	100	2	Major	Own
8	UCS2202	Structured Programming using C	0	0	2	80	20	100	1	Major	Own
	UCS2210	Data Visualization Lab	0	0	2	80	20	100	1	Major	Own
9	UCS260IIV	Industrial Visit-I	0	0	0	100	-	100	1	Major	Own
10	UEG2503SE	Functional English Lab	0	0	2	80	20	100	1	Skill	Other
TOTAL			22	3	10	760	440	1200	30		

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II YEAR: III SEMESTER

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C	COURSE TYPE	FACULTY
THEORY											
1	UCS3001	Database Management Systems	4	0	0	40	60	100	4	Major	Own
2	UCS3002	Object-Oriented Programming using C++	3	0	0	40	60	100	3	Major	Own
3	UCS3016	Data Analytics and Reporting	3	1	0	40	60	100	4	Major	Own
4	UCS3501SE	Fundamental of Animation	3	0	0	40	60	100	3	Skill	Own
5	USO3401	Human Values and Environment Studies	2	0	0	100	-	100	2	Co-Curricular	Other
6	UMA3008	Discrete Mathematics and Graph Theory	3	2	0	40	60	100	4	Major	Other
PRACTICAL/TRAINING/PROJECT											
7	UCS3201	Database Management Systems Lab	0	0	4	80	20	100	2	Major	Own
8	UCS3202	C++ Programming Lab	0	0	2	80	20	100	1	Major	Own
9	UCS3701SM	Seminar-I	0	0	2	100	-	100	1	Major	Own
10	UCS3601IV	Industrial Visit- II	0	0	0	100	-	100	1	Major	Own
11	UCS3213	Data Analytics & Reporting Lab	0	0	2	80	20	100	1	Major	Own
TOTAL			18	3	10	740	360	1100	26		

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II YEAR: IV SEMESTER

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C	COURSE TYPE	FACULTY
THEORY											
1	UCS4001	Web Technology	4	0	0	40	60	100	4	Major	Own
2	UCS4002	Software Engineering	3	1	0	40	60	100	4	Major	Own
3	UCS4003	Object Oriented Programming using Java	3	0	0	40	60	100	3	Major	Own
4	UCS4020	Data Science	3	1	0	40	60	100	4	Major	Own
5		Minor Elective-II	4	0	0	40	60	100	4	Major	Other
6	UPE4401	Physical Education and Yoga	2	0	0	100	-	100	2	Co-Curricular	Other
PRACTICAL/TRAINING/PROJECT											
7	UCS4201	Web Technology Lab	0	0	2	80	20	100	1	Major	Own
8	UCS4202	Java Programming Lab	0	0	4	80	20	100	2	Major	Own
9	UCS4702SM	Seminar-II	0	0	2	100	-	100	1	Major	Own
10	UCS4601IV	Industrial Visit-III	0	0	0	100	-	100	1	Major	Own
11	UCS4213	Data Science Lab	0	0	2	80	20	100	1	Major	Own
TOTAL			19	2	10	740	360	1100	27		

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III YEAR: IV SEMESTER

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C	COURSE TYPE	FACULTY
THEORY											
1	UCS5001	Analysis of Algorithms and Data Structures	4	0	0	40	60	100	4	Major	Own
2	UCS5002	E-Commerce	4	0	0	40	60	100	4	Major	Own
3	UCS5010	Internet of Things	3	1	0	40	60	100	4	Major	Own
4	UCS5021	Artificial Intelligence	3	1	0	40	60	100	4	Major	Own
5		Elective- I	3	1	0	40	60	100	4	Major	Own
6	UAP5401	Analytic Ability and Digital Awareness	2	0	0	100	-	100	2	Co-Curricular	Own
PRACTICAL/TRAINING/PROJECT											
7	UCS5201	Lab on Algorithms and Data Structures Using Java	0	0	4	80	20	100	2	Major	Own
8	UCS5701PJ	Research Project-I	0	0	6	100	-	100	3	Major	Own
9	UCS5701SM	Seminar-III	0	0	2	100	-	100	1	Major	Own
10	UCS5601IV	Industrial Visit-IV	0	0	0	100	-	100	1	Major	Own
11	UCS5212	Artificial Intelligence Lab	0	0	2	80	20	100	1	Major	Own
TOTAL			19	3	14	760	340	1100	30		

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III YEAR: VI SEMESTER

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C	COURSE TYPE	FACULTY
THEORY											
1	UCS6001	Data Communication and Computer Network	4	0	0	40	60	100	4	Major	Own
2	UCS6002	Information Security & Cyber Laws	4	0	0	40	60	100	4	Major	Own
3		Elective II	3	1	0	40	60	100	4	Major	Own
4		Elective III	3	1	0	40	60	100	4	Major	Own
5	USS6401	Communication Skills and Personality Development	2	0	0	100	-	100	2	Co-Curricular	Other
PRACTICAL/TRAINING/PROJECT											
6	UCS6201	Lab on Computer Networks	0	0	4	80	20	100	2	Major	Own
7	UCS6701PJ	Research Project-II	0	0	6	100	-	100	3	Major	Own
8	UCS6702SM	Seminar-IV	0	0	2	100	-	100	1	Major	Own
9	UCS6601IV	Industrial Visit-V	0	0	0	100	-	100	1	Major	Own
TOTAL			16	2	12	640	260	900	25		

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IV YEAR: VII SEMESTER

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C	COURSE TYPE	FACULTY
THEORY											
1	UCS7001	Data Mining Techniques	3	1	0	40	60	100	4	Major	Own
2	UCS7002	Fundamentals of Digital Forensics	3	1	0	40	60	100	4	Major	Own
3	UCS7003	Enterprise Resource Planning	3	1	0	40	60	100	4	Major	Own
4	UCS7005	Data Compression	3	1	0	40	60	100	4	Major	Own
PRACTICAL/TRAINING/PROJECT											
5	UCS7201	Basic SCI Lab	0	0	8	80	20	100	4	Major	Own
6	UCS7701PJ	Project Part- I	0	0	12	80	20	100	6	Major	Own
TOTAL			12	4	20	320	280	600	26		

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IV YEAR: VIII SEMESTER

S. NO.	SUBJECT CODE	SUBJECT	L	T	P	CIE	ESE	TOTAL	C	COURSE TYPE	FACULTY
THEORY											
1	UCS8001	Big Data Technology	3	1	0	40	60	100	4	Major	Own
2	UCS8004	Information for Emerging Technologies	3	1	0	40	60	100	4	Major	Own
3	UCS8005	Neural Network	3	1	0	40	60	100	4	Major	Own
4		Minor Elective - III	4	0	0	40	60	100	4	Major	Other
PRACTICAL/TRAINING/PROJECT											
5	UCS8201	Application for SCI Lab	0	0	8	80	20	100	4	Major	Own
6	UCS8701PJ	Project Part- II	0	0	12	80	20	100	6	Major	Own
7	UCS8202	AI/ML Lab	0	0	8	80	20	100	4	Major	Own
TOTAL			13	3	28	400	300	700	30		

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LIST OF ELECTIVES

Skill Subjects

S. NO.	SUBJECT CODE	SUBJECT	SEMESTER
1	UCS1501SE	Digital Aptitude and Logic	I
2	UEG2504SE	Functional English	II
3	UCS3501SE	Fundamental of Animation	III

Elective Subjects

S. NO.	SUBJECT CODE	SUBJECT	SEMESTER
Elective - I			
1	UCS5104	Agile Methodology	V Semester
2	UCS5105	Android App Development	
3	UCS5106	Data Compression	
Elective - II			
1	UCS6101	Data Analysis and Handling	VI Semester
2	UCS6102	Human Computer Interaction	
3	UCS6124	Machine Learning	
Elective - III			
1	UCS6104	Graph Theory	VI Semester
2	UCS6105	Image Processing	
3	UCS6125	Cybernetics	

Minor Elective Subjects

S. NO.	SUBJECT CODE	SUBJECT	SEMESTER
Minor Elective - I			
1	UCS2301	IT Infrastructure Management	II
2	UCS2302	Multimedia Systems	
3	UCS2303	Human Computer Interaction	
Minor Elective - II			

1	UCS4301	Python and Applications	IV
2	UCS4302	Emerging technologies in IT	
3	UCS4303	Cyber Security System	
Minor Elective - III			
1	UCS8302	Database Management System	VIII
2	UCS8303	Internet and Networking	
3	UCS8304	Artificial Intelligence and Machine Learning	