

ARKA JAIN UNIVERSITY

School of
Engineering & Information Technology

Department of
Computer Science & Information Technology

FACULTY - BCA

(Semester I - VI)

Scheme of Study
(w.e.f Batch 2020-21)



ARKA JAIN
University
Jharkhand (Jamshedpur)



SEMESTER - I

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Introduction to Computer Science	Core	5	5	100	70	20	5	5
2	Programming in C	Core	5	5	100	70	20	5	5
3	Discrete Mathematics	GS	5	5	100	70	20	5	5
4	Business Communication	AECC	5	5	100	70	20	5	5
	Practical								
5	Computer Science Lab	Core	2	4	50	35	10	2.5	2.5
6	Programming In C Lab	Core	2	4	50	35	10	2.5	2.5
	Total		24	28	500	350	100	25	25



SEMESTER - II

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA*	Attendance
1	Data Structure through C	Core	5	5	100	70	20	5	5
2	Object Oriented Programming with C++	Core	5	5	100	70	20	5	5
3	Operating System	Core	5	5	100	70	20	5	5
4	Numerical & Statistical Methods	GS	4	4	100	70	20	5	5
5	Environmental Science	AECC	5	5	100	70	20	5	5
	Practical								
6	Data Structure through C Lab	Core	2	4	50	35	10	2.5	2.5
7	Object Oriented Programming with C++ Lab	Core	2	4	50	35	10	2.5	2.5
	Total		28	32	600	420	120	30	30



SEMESTER - III

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA*	Attendance
1	Programming with Java	Core	5	5	100	70	20	5	5
2	Design and Analysis of Algorithms	Core	5	5	100	70	20	5	5
3	Database Management System	Core	5	5	100	70	20	5	5
4	Data Communication & Networking	Core	5	5	100	70	20	5	5
5	Python Programming	SECC	4	4	100	70	20	5	5
	Practical								
6	Programming with Java Lab	Core	2	4	50	35	10	2.5	2.5
7	Database Management System Lab	Core	2	4	50	35	10	2.5	2.5
8	Python Programming Lab	SECC	2	4	50	35	10	2.5	2.5
	Total		30	36	650	455	130	32.5	32.5



SEMESTER - IV

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA*	Attendance
1	Introduction to Data Science	Core	5	5	100	70	20	5	5
2	Internet of Things	Core	5	5	100	70	20	5	5
3	Data Science - Elective I IOT - Elective I AI - Elective I	DSE	5	5	100	70	20	5	5
4	Data Science - Elective II IOT - Elective II AI - Elective II	DSE	5	5	100	70	20	5	5
	Practical								
5	Data Science - Elective I IOT - Elective I AI - Elective I	DSE	2	4	50	35	10	2.5	2.5
6	Data Science - Elective II IOT - Elective II AI - Elective II	DSE	2	4	50	35	10	2.5	2.5
	Total		24	28	500	350	100	25	25



SEMESTER - V

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Enterprise Java	Core	5	5	100	70	20	5	5
2	Machine Learning	Core	5	5	100	70	20	5	5
3	Mobile Application Development	SECC	4	4	100	70	20	5	5
4	Data Science - Elective III IOT - Elective III AI - Elective III	DSE	5	5	100	70	20	5	5
5	Data Science - Elective IV IOT - Elective IV AI - Elective IV	DSE	5	5	100	70	20	5	5
	Practical								
6	Enterprise Java Lab	Core	2	4	50	35	10	2.5	2.5
7	Machine Learning Lab	Core	2	4	50	35	10	2.5	2.5
8	Mobile Application Development Lab	SECC	2	4	50	35	10	2.5	2.5
	Total		30	36	650	455	130	32.5	32.5



SEMESTER - VI

S.No	Name of the Subject	Type of Paper	Credit	Contact Hours Per Week	Total Marks	End Term Theory/ Practical Exam	Mid Term Theory/ Practical Exam	CIA *	Attendance
1	Software Engineering	Core	5	5	100	70	20	5	5
2	Data Science - Elective V IOT - Elective V AI - Elective V	DSE	5	5	100	70	20	5	5
3	Data Science - Elective VI IOT - Elective VI AI - Elective VI	DSE	5	5	100	70	20	5	5
	Practical								
4	Project	DSE	5	5	100	70	30	0	0
5	Data Science - Elective V IOT - Elective V AI - Elective V	DSE	2	4	50	35	10	2.5	2.5
6	Data Science - Elective VI IOT - Elective VI AI - Elective VI	DSE	2	4	50	35	10	2.5	2.5
	Total		24	28	500	350	110	20	20

DISCIPLINE SPECIFIC ELECTIVE (DSE) COURSE

Elective I & II	Elective I & II	Elective I & II
Data Science (Select any Two)	IOT (Select any Two)	AI (Select any Two)
R Programming Language	Sensor Technologies	Introduction to RPA Tools
Python for Data Science	Embedded System	Introduction to Process Automation
Web Programming	Web Programming	Web Programming
Practical		
R Programming Language Lab	Sensor Technologies Lab	Introduction to RPA Tools Lab
Python for Data Science Lab	Embedded System Lab	Introduction to Process Automation Lab
Web Programming Lab	Web Programming Lab	Web Programming Lab

Elective III & IV	Elective III & IV	Elective III & IV
Data Science (Select any Two)	IOT (Select any Two)	AI (Select any Two)
Design and Analysis of Experiments	Artificial Intelligence	Six Sigma and Lean Methods
Probabilistic Graphical Models	Digital Image Processing	Digital Image Processing
Exploratory Data Analysis and Data Visualization Techniques	Cloud Computing	Business Intelligence

Elective V & VI	Elective V & VI	Elective V & VI
Data Science (Select any Two)	IOT (Select any Two)	AI (Select any Two)
Big Data Analytics	Embedded C with Arduino	Cloud Deployment And Management
NoSQL Databases	Digital Signal Processing	Natural Language Processing
Time Series Analysis	Artificial Neural Networks	Artificial Neural Networks
Practical		
Big Data Analytics Lab	Embedded C with Arduino	Cloud Deployment And Management Lab
NoSQL Databases Lab	Digital Signal Processing Lab	Natural Language Processing Lab
Time Series Analysis Lab	Artificial Neural Networks	Artificial Neural Networks Lab



DISTRIBUTION OF CREDIT ACROSS 6 SEMESTERS:

Sl. No	Type of Paper	No. of Paper	Total Credit
1	Core Paper	22	86
2	Ability Enhancement Compulsory Paper	2	10
3	Generic Paper	2	9
4	Discipline Specific Elective	11	43
5	Skill Enhancement	4	12
	Total	41	160

*CIA - Continuous Internal Assessment - Based on Projects / Assignment during the semester

GS - Generic Subject | AECC - Ability Enhancement Compulsory Course

SECC - Skill Enhancement Compulsory Course | DSE - Discipline Specific Elective