SARALA BIRLA UNIVERSITY RANCHI

Established under the Sarala Birla University Act 2017 Govt. of Jharkhand as per Section 2(f) of UGC Act. 1956

CURRICULUM
FOR

Bachelor of Computer Application

(Based on UGC- CBCS)

Effective from 2019-20

Course and Total Credit Distribution

s.No	Course Type	Total Credit
1	Core Courses(**CC**)	83
1	Ability Enhancement Compulsary Courses(**AECC**)	7
1	Skill Enhancement Course(**SEC**)	4
1	Generic Elective(**GE**)	21
1	Discipline Specific Elective Courses(**DSE**)	18
	Project Work and Dissertation	6
TOTAL CREDIT		**139**

Total Credit Distribution Detail

Semester	Types of Courses						Total Credit
	CC	AECC	GE	SEC	DSE	PROJECT	
Sem- 1	12	2	5	1			20
Sem- 2	12	4	5				21
Sem- 3	17		6	2			25
Sem- 4	18		5	2			25
Sem- 5	12				12		24
Sem- 6	12				6	6	24
TOTAL							**139**

Marks Structure BCA 3 years Course

S.No.	Semester	Total Credits	Total Classes per Week	Total Internal Assessment	Total External Assessment Marks	Total Marks
1	I	20	24	180	320	500
2	II	21	25	210	390	600
3	III	25	29	240	410	650
4	IV	25	29	240	410	650
5	V	24	28	180	320	500
6	VI	24	34	225	275	500
Total		**139**	**169**	**1275**	**2125**	**3400**

Ability Enhancement Compulsary Courses(AECC)

S.No	Category	Course Code	Course Title	Credit	Semester	Lecture/Week
1	Compulsary Courses(AECC)	BCA-105	Technical English	3	I	3
2	Compulsary Courses(AECC)	BCA-111	Environmental Science	2	II	2
3	Compulsary Courses(AECC)	BCA-113	Values and Ethics	2	II	2
Total				7		

Skill Enhancement Course(SEC)

S.No	Category	Course Code	Course Title	Credit	Semester	Lecture/Week
1	Language	BCA-208	Foreign Language-I	2	III	2
2		BCA-216	Foreign Language-II	2	IV	2
Total				4		

Generic Elective(GE)

S.No	Category	Course Code	Course Title	Credit	Semester	Lecture/Week
1	Generic Elective/Interdisciplinary	BCA-106	Mathematics-I	5	I	5
2		BCA-112	Mathematics-II	5	II	5
3		BCA-206	Digital Logic Design	4	III	4
4		BCA-207	Digital Logic Design Lab	2	III	4
5		BCA-215	Organisational Behaviour	5	IV	5
Total				21		

			Discipline Specific Elective (DSE) Courses			
S.No	Category	Course Code	Course Title	Credit	Semester	Lecture/Week
1	Discipline Specific Elective	BCA-310	Numerical Methods	6	V	6
2	Discipline Specific Elective	BCA-311	Cloud Computing	6	V	6
3	Discipline Specific Elective	BCA-312	Scientific Computing	6	V	6
4	Discipline Specific Elective	BCA-313	Data Mining & Warehousing	6	V	6
5	Discipline Specific Elective	BCA-314	Information Security	6	VI	6
6	Discipline Specific Elective	BCA-315	Soft Computing	6	VI	6

Note: 1. In 5th Semester any Two Elective Courses are need to be selected among S.No 1-4
2. In 6th Semester any One Elective Courseneed to be selected from among S.No 5,6.

			PROJECT(P)			
S.No	Category	Course Code	Course Title	Credit	Semester	Lecture/Week
1	Project Work and Dissertation	BCA-309	Project Work and Dissertation	6	VI	12
			Total Credit	**6**		

SARALA BIRLA UNIVERSITY

COURSE STRUCTURE

BACHELOR OF COMPUTER APPLICATION (BCA)
Course Detail

S.No	Category	Course Code	Course Title	Credit	Semester	Lecture/ Week
Core Courses(CC)						
1	Core Course	BCA-101	Programming in 'C'	4	I	4
2	Core Course	BCA-103	Computer System Architecture	4	I	4
3	Core Course	BCA-107	Object Oriented Analysis and Design	4	II	4
4	Core Course	BCA-109	Data Structure	4	II	4
5	Core Course	BCA-201	Discrete Mathematics	5	III	5
6	Core Course	BCA-202	Operating System	4	III	4
7	Core Course	BCA-204	Computer Network	4	III	4
8	Core Course	BCA-209	Design and Analysis of Algorithm	4	IV	4
9	Core Course	BCA-211	Software Engineering	4	IV	4
10	Core Course	BCA-213	Database Management System	4	IV	4
11	Core Course	BCA-301	Internet Technology& Web Design	4	V	4
12	Core Course	BCA-303	Theory Of Computation	4	V	4
13	Core Course	BCA-305	Artificial Intelligence	4	VI	4
14	Core Course	BCA-306	Computer Graphics	4	VI	4

| | | | Total Credit(Theory) | 57 | | 57 |

Core Course Lab

S.No	Category	Course Code	Course Title	Credit	Semester	Lecture/Week
1	Core Course Lab	BCA-102	Programming in 'C' Lab	2	I	4
2	Core Course Lab	BCA-104	Computer System Architecture Lab	2	I	4
3	Core Course Lab	BCA-108	Object Oriented Programming Lab	2	II	4
4	Core Course Lab	BCA-110	Data Structure Lab	2	II	4
5	Core Course Lab	BCA-203	Operating System Lab	2	III	4
6	Core Course Lab	BCA205	Networking Lab	2	III	4
7	Core Course Lab	BCA210	Design and Analysis of Algorithm Lab	2	IV	4
8	Core Course Lab	BCA212	Software Engineering Lab	2	IV	4
9	Core Course Lab	BCA-214	Database Management System Lab	2	IV	4
10	Core Course Lab	BCA-221	Internet Technology & Web Design Lab	2	V	4
11	Core Course Lab	BCA-304	Automata Lab	2	V	4
12	Core Course Lab	BCA-306	Artificial Intelligence lab	2	VI	4
13	Core Course Lab	BCA-222	Computer Graphics Lab	2	VI	4
14			Total(Lab)	26		52
			TOTAL (Theory+Lab)	83		109

COURSE STRUCTURE

Distribution of Credit & Total Classes per week

SEMESTER I (FIRST YEAR]

BACHELOR OF COMPUTER APPLICATION (BCA)
HONOURS PROGRAMME

Sl. No.	Category	Course Code	Course Title	Hours			Credit	Marks		
				L	T	P		IA	ESE	Total
Theory										
1	Core Course	BCA-101	Programming in 'C'	3	1	0	4	30	70	100
2	Core Course	BCA-103	Computer System Architecture	3	1	0	4	30	70	100
3	Ability Enhancement Compulsory Course (AECC)	BCA-105	Technical English	2	1	0	3	30	70	100
4	Generic Elective	BCA-106	Mathematics-I	4	1	0	5	30	70	100
			Total(A)				16	120	280	400
Practical										
1	Core Course Lab	BCA-102	Programming in C Lab	0	0	4	2	30	20	50
2	Core Course Lab	BCA-104	Computer System Architecture Lab	0	0	4	2	30	20	50
			Total(B)				4	60	40	100
			Grand Total (A+B)				20	180	320	500

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER II (FIRST YEAR]
BACHELOR OF COMPUTER APPLICATION (BCA)
HONOURS PROGRAMME

Sl. No.	Category	Course Code	Course Title	Hours			Credit	Marks		
				L	T	P		IA	ESE	Total
Theory										
1	Core Course	BCA-107	Object Oriented Analysis and design	3	1	0	4	30	70	100
2	Core Course	BCA-109	Data Structure	3	1	0	4	30	70	100
3	Compulsary Courses(AEC)	BCA-111	Environmental Science	2	0	0	2	30	70	100
4	Generic Elective	BCA-112	Mathematics-II	4	1	0	5	30	70	100
5	Ability Enhancement Compulsary Courses(AEC)	BCA-113	Values and Ethics	2	0	0	2	30	70	100
						Total(A)	17	150	350	500
Practical										
1	Core Course Lab	BCA-108	Object Oriented Programming Lab	0	0	4	2	30	20	50
2	Core Course Lab	BCA-110	Data Structure Lab	0	0	4	2	30	20	50

							Credit	IA	ESE	Total
						Total(B)	4	60	40	100
						Grand Total (A+B)	21	210	390	600

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examina

COURSE STRUCTURE

SEMESTER III (SECOND YEAR]

BACHELOR OF COMPUTER APPLICATION (BCA)
HONOURS PROGRAMME

Sl. No.	Category	Course Code	Course Title	Hours			Credit	Marks		
				L	T	P		IA	ESE	Total
Theory										
1	Core Course	BCA-201	Discrete Mathematics	4	1	0	5	30	70	100
2	Core Course	BCA-202	Operating System	3	1	0	4	30	70	100
3	Core Course	BCA-204	Computer Network	3	1	0	4	30	70	100
4	Generic Elective	BCA-206	Digital Logic Design	3	1	0	4	30	70	100
5	Skill Enhancement Course		Foreign Language-I	2	0	0	2	30	70	100
			Total(A)				19	150	350	500
Practical										
1	Core Course Lab	BCA-203	Operating System Lab	0	0	4	2	30	20	50
2	Core Course Lab	BCA-205	Networking Lab	0	0	4	2	30	20	50
3	Generic Elective/Interdesciplinary Lab	BCA-207	Digital Design Lab	0	0	4	2	30	20	50
			Total(B)				6	90	60	150
			Grand Total (A+B)				25	240	410	650

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examinati

COURSE STRUCTURE

SEMESTER IV (SECOND YEAR]

BACHELOR OF COMPUTER APPLICATION (BCA)
HONOURS PROGRAMME

Sl. No.	Category	Course Code	Course Title	Hours			Credit	Marks		
				L	T	P		IA	ESE	Total
Theory										
1	Core Course	BCA-209	Design and Analysis of Algorithm	3	1	0	4	30	70	100
2	Core Course	BCA-211	Software Engineering	3	1	0	4	30	70	100
3	Core Course	BCA-213	Database Management System	3	1	0	4	30	70	100
4	Generic Elective	BCA-215	Organisational Behaviour	4	1	0	5	30	70	100
5	Skill Enhancement Course		Foreign Language-II	2	0	0	2	30	70	100
			Total(A)				19	150	350	500
Practical										
1	Core Course Lab	BCA-210	Design and Analysis of Algorithm Lab	0	0	4	2	30	20	50
2	Core Course Lab	BCA-212	Software Engineering Lab	0	0	4	2	30	20	50
3	Core Course Lab	BCA-214	Database Management System Lab	0	0	4	2	30	20	50
			Total(B)				6	90	60	150
			Grand Total (A+B)				25	240	410	650

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER V (THIRD YEAR]

BACHELOR OF COMPUTER APPLICATION (BCA)

HONOURS PROGRAMME

Sl. No.	Category	Course Code	Course Title	Hours			Credit	Marks		
				L	T	P		IA	ESE	Total
Theory										
1	Core Course	BCA-301	Internet Technology& web design	3	1	0	4	30	70	100
2	Core Course	BCA-303	Theory Of Computation	3	1	0	4	30	70	100
3	Discipline Specific Elective (DSE) Courses		Discipline Specific Elective-I	4	0	2	6	30	70	100
4	Discipline Specific Elective (DSE) Courses		Discipline Specific Elective-II	4	0	2	6	30	70	100
						Total(A)	20	120	280	400
Practical										
1	Core Course Lab	BCA-302	Internet Technology& web Design Lab	0	0	4	2	30	20	50
2	Core Course Lab	BCA-304	Theory Of Computation Lab	0	0	4	2	30	20	50
						Total(B)	4	60	40	100
					Grand Total (A+B)		24	180	320	500

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination

COURSE STRUCTURE

SEMESTER VI (THIRD YEAR]

BACHELOR OF COMPUTER APPLICATION (BCA)

HONOURS PROGRAMME

Sl. No.	Category	Course Code	Course Title	Hours			Credit	Marks		
				L	T	P		IA	ESE	Total
Theory										
1	Core Course	BCA-305	Artificial Intelligence	3	1	0	4	30	70	100
2	Core Course	BCA-307	Computer Graphics	3	1	0	4	30	70	100
3	Discipline Specific Elective (DSE) Courses		Discipline Specific Elective-III	4	0	2	6	30	70	100
						Total(A)	14	90	210	300
Practical										
1	Core Course Lab	BCA-306	Artificial Intelligence lab	0	0	4	2	30	20	50
2	Core Course Lab	BCA-308	Computer Graphics Lab	0	0	4	2	30	20	50
3	Project Work and Dissertation	BCA-309	Project Work and Dissertation	0	0	12	6	75	25	100
						Total(B)	10	135	65	200
						Grand Total (A+B)	24	225	275	500

L-Lecture, T-Tutorial, P-Practical

IA- Internal Assessment, ESE-End Semester Examination