

# Bachelor of Computer Application BCA (2015-16)

# **BCA Course Structure (2015-16)**

## Semester - I

THEORY P	PAPERS	1	No. of		Mar	ks Allocatio	n	
			achin	_				
		I	<b>Hours</b>	,				
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 101	Computer Fundamentals	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 102	C Language	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 103	Mathematics	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 104	<b>Basics of Internet Programming</b>	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 105	Communication Skills	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA</b> 106	Principles of Management	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
			No. of		Sessional	Practical	Total	Credits
		Τe	eachin	g				
<b>PRACTICA</b>	LS/VIVA-VOCE	1	<b>Hours</b>					
	Computer Fundamentals & PC							
BCA 107	Computing Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<b>50</b>	1
<b>BCA</b> 108	C Language Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 109	<b>Internet Programming Lab</b>	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
	TOTAL		5	6	270	480	750	27

THEORY PAPERS		No. of Teaching Hours			Mar			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 201	Digital Electronics	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 202	Computer Organization and Architecture	3	1	ı	30	<mark>70</mark>	100	4
BCA 203	System Analysis & Design	4	<b>-</b>	-	<del>30</del>	<del>70</del>	100	4
BCA 204	Data Structure & Algorithms	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 205	Linux Environment	3	1	-	<del>30</del>	<del>70</del>	100	4
BCA 206	Environmental Studies	4	-	-	<mark>30</mark>	<del>70</del>	100	4
PRACTICA	LS/VIVA-VOCE	No. of Teaching Hours		Sessional	Practical	Total	Credits	
BCA 207	Data Structure & Algorithms Lab	-	-	<mark>2</mark>	<b>30</b>	<mark>20</mark>	<mark>50</mark>	1
<b>BCA 208</b>	Linux Environment Lab	- 2		<mark>30</mark>	<mark>20</mark>	<del>50</del>	1	
<b>BCA 209</b>	Personality Development Lab	- 2		<mark>30</mark>	<mark>20</mark>	<del>50</del>	1	
	TOTAL		3	6	270	480	750	27

THEORY		]	No	. of	•	Marks Allocation			
PAPERS		Teaching			ıg				
		]	Ho	urs					
Code	Subject/Paper							Tota	Credit
		L		T	P	IA	EA	l	S
	Object Oriented Programming Using								
BCA 301	C++	<mark>3</mark>		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 302</b>	Database Management System	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 303	Front End Design Tool (VB)	<mark>3</mark>		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 304	Managerial Personality Development	4		-	-	30	<mark>70</mark>	100	4
BCA 305	Technical Communication	3		1	-	30	<mark>70</mark>	100	4
BCA 306	Discrete Mathematics	<mark>3</mark>		1	-	30	<mark>70</mark>	100	4
			No	. of		Sessiona	Practica	Tota	Credit
		Te	eac	hin	ıg	1	1	1	S
PRACTICA.	LS/VIVA-VOCE	]	Hours						
BCA 307	OOPS Using C++ Lab	-		I	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 308	DBMS Lab			Ī	2	<mark>30</mark>	20	<del>50</del>	1
BCA 309	Front End Design Tool (VB) Lab			-	2	<mark>30</mark>	<mark>20</mark>	50	1
	TOTAL	19		5	6	270	480	750	27

### Semester - IV

THEORY	THEORY PAPERS		o. of achin lours	g	Mar			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 401	Operating Systems	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 402	Computer Oriented Numerical & Statistical Methods using C	3	1		30	70	100	4
BCA 403	Java Programming	3	1	<u> </u>	<mark>30</mark>	<mark>70</mark>	100	4
BCA 404	Software Engineering	4	I	<u> </u>	<mark>30</mark>	<mark>70</mark>	100	4
BCA 405	Data Mining & Data Warehousing	4		Ī	<mark>30</mark>	<mark>70</mark>	100	4
BCA 406	Communication Skills- Scientific & Technical Writing	3	1	i	30	70	100	4
PRACTICA	PRACTICALS/VIVA-VOCE		o. of achin lours	g	Sessional	Practical	Total	Credits
BCA 407	<mark>Java Lab</mark>			2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 408	Software Engineering Lab			2	<mark>30</mark>	20	<mark>50</mark>	1
BCA 409	Communication Technical Lab			2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL	20	4	6	270	480	750	27

## Semester - V

THEORY F	PAPERS	N	o. of		Mar	ks Allocatio	n	
			achin	0				
		H	lours					
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 501	Computer Networks	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 502	System Software	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 503	<b>Advanced Internet Programming</b>	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 504	Advance Java	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 505	Computer Graphics	3	1	-	<del>30</del>	<del>70</del>	100	<u>4</u>
BCA 506	E-Commerce	4		-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
		N	o. of		Sessional	Practical	Total	Credits
		Te	achin	g				
PRACTICA	LS/VIVA-VOCE	Н	lours	_				
BCA 507	Advance Internet Programming Lab	2		<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1	
BCA 508	Advanced Java Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
<b>BCA 509</b>	Summer Project Seminar	-	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL		4	6	270	480	750	27

THEORY P	PAPERS	Te	lo. of achin	ıg	Mar			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 601	Advance Computer Networks	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 602	Management Information System	4	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 603	Artificial Intelligence	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
Elective (an	y one)							
BCA 604A	.NET Programming	3	1		30	70	100	4
BCA 604B	Fundamental of PHP	3	1		30	70	100	4
BCA 604C	Principles of Accounting	3	1		30	70	100	4
BCA 604D	Intellectual Property Rights	3	1		30	70	100	4
Elective (an	y one)							
BCA 605A	Social Implications of IT	3	1		30	70	100	4
BCA 605B	Mobile Computing	3	1		30	70	100	4
BCA 605C	Cyber Ethics & Crime	3	1		30	70	100	4
BCA 605D	Entrepreneurship	3	1		30	70	100	4
			lo. of		Sessional	Practical	Total	Credits
DDACTICA	LS/VIVA-VOCE	Teaching Hours		_				
BCA 606	.NET/PHP Lab		Juis	2	30	20	50	1
BCA 607	Major Project			4	100	50	150	2
BCA 608	Seminar			2	30	20	50	1
	TOTAL	16	4	8	310	440	750	24
	Grand Total of Credits		25	38	1660	2840	4500	159

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester .The progress will be monitored through seminars and progress reports.

- 1. The total number of the credits of BCA Program are = 159
- 2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 149 credits.



# Bachelor of Computer Application BCA (2016-17)

# **BCA Course Structure (2016-17)**

## Semester - I

THEORY P	PAPERS	N	lo. of		Mar	ks Allocatio	n	
			achin	0				
	<del>_</del>	ŀ	<u>Iours</u>					
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 101	Computer Fundamentals	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 102	C Language	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 103	Mathematics	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 104	<b>Basics of Internet Programming</b>	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 105	Communication Skills	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA</b> 106	Principles of Management	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
			No. of		Sessional	Practical	Total	Credits
		Te	Teaching					
<b>PRACTICA</b>	LS/VIVA-VOCE	I	Iours					
	Computer Fundamentals & PC							
BCA 107	Computing	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
<b>BCA</b> 108	C Language Lab		-	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 109	<b>Internet Programming Lab</b>	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>5</del> 0	1
	TOTAL		5	6	270	480	750	27

THEORY PAPERS		No. of Teaching Hours			Mar			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 201	Digital Electronics	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 202	Computer Organization and Architecture	3	1	ı	30	<del>70</del>	100	4
BCA 203	System Analysis & Design	4	Ī	-	30	<del>70</del>	100	4
BCA 204	Data Structure & Algorithms	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 205	Linux Environment	3	1	-	30	<del>70</del>	100	4
BCA 206	Environmental Studies	4	Ī	-	30	<del>70</del>	100	4
PRACTICA	LS/VIVA-VOCE	Te	No. of achin Iours	g	Sessional	Practical	Total	Credits
<b>BCA 207</b>	Data Structure & Algorithms Lab	-		2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
<b>BCA 208</b>	Linux Environment Lab	- 2		<b>30</b>	<mark>20</mark>	<del>50</del>	1	
<b>BCA 209</b>	Personality Development Lab	- 2		<mark>30</mark>	<mark>20</mark>	<del>50</del>	1	
	TOTAL		3	6	270	480	750	27

THEORY PAPERS		No. of Teaching Hours			ıg	Marl	n		
Code	Subject/Paper			<b></b>	,			Tota	Credit
		L		T	P	IA	EA	ı	S
	Object Oriented Programming using				_				
BCA 301	<b>C++</b>	<b>3</b>		1	_	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 302</b>	Database Management System	3		1	•	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 303</b>	Front End Design Tool (VB)	3		1		<mark>30</mark>	<mark>70</mark>	100	4
BCA 304	Managerial Personality Development	4		-	-	<del>30</del>	<del>70</del>	100	4
BCA 305	Technical Communication	3		1		<mark>30</mark>	<mark>70</mark>	100	4
<b>BCA 306</b>	Discrete Mathematics	3		1	i	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
			No	o. of	•	Sessiona	Practica	Tota	Credit
		T	ea	chin	ıg	1	1	1	S
PRACTICA	LS/VIVA-VOCE	Hours							
BCA 307	OOPS Using C++ Lab	-		-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 308	DBMS Lab	-			2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 309	Front End Design Tool (VB) Lab	-			2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL	19	)	5	6	270	480	750	27

### Semester - IV

THEORY	PAPERS	_	o. of		Mar	ks Allocatio	n	
			aciiii Iours	0				
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 401	Operating Systems	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 402	Computer Oriented Numerical & Statistical Methods Using C	3	1		30	70	100	4
BCA 403	Java Programming	3	1	I	30	<mark>70</mark>	100	4
BCA 404	Software Engineering	4	II	Ī	30	<mark>70</mark>	100	4
BCA 405	Data Mining & Data Warehousing	4			30	<mark>70</mark>	100	4
BCA 406	Communication Skills- Scientific & Technical Writing	3	1		30	70	100	4
PRACTICA	No. of Teaching PRACTICALS/VIVA-VOCE Hours		g	Sessional	Practical	Total	Credits	
BCA 407	Java	_	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
<b>BCA 408</b>	Software Engineering Lab	-		2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 409	Communication Technical Lab	-		2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL		4	6	270	480	750	27

## Semester - V

THEORY P	PAPERS	- '	o. of		Marks Allocation			
			achin	0				
		Hours						
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 501	Computer Networks	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 502	System Software	<mark>4</mark>	•	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 503	Advanced Internet Programming	<mark>3</mark>	1		<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 504	Advance Java	3	1	-	30	<del>70</del>	100	4
BCA 505	Computer Graphics	3	1	-	30	<del>70</del>	100	4
BCA 506	E-Commerce	<mark>4</mark>	Ī	-	<mark>30</mark>	<mark>70</mark>	100	4
		N	o. of		Sessional	Practical	Total	Credits
		Tea	achin	g				
PRACTICAL	LS/VIVA-VOCE	Hours						
BCA 507	Advance Internet Programming Lab	2		<mark>30</mark>	<mark>20</mark>	<del>50</del>	1	
BCA 508	Advance Java Lab			2	<mark>30</mark>	20	50	1
BCA 509	Summer Project Seminar	- 2		<mark>30</mark>	20	50	1	
	TOTAL		4	6	270	480	750	27

THEORY P	APERS	Te	lo. of achin	g	Marl			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 601	Advance Computer Networks	3	1	_	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 602	Management Information System	4	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 603	Artificial Intelligence	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
Elective (an	y one)							
BCA 604A	.NET Programming	3	1	-	30	70	100	4
BCA 604B	Fundamental of PHP	3	1	-	30	70	100	4
BCA 604C	Principles of Accounting	3	1	-	30	70	100	4
BCA 604D	Intellectual Property Rights	3	1		30	70	100	4
Elective (an	y one)							
BCA 605A	Social Implications of IT	3	1	-	30	70	100	4
BCA 605B	Mobile Computing	3	1		30	70	100	4
BCA 605C	Cyber Ethics & Crime	3	1	-	30	70	100	4
BCA 605D	Entrepreneurship	3	1	_	30	70	100	4
			lo. of		Sessional	Practical	Total	Credits
PRACTICA	LS/VIVA-VOCE	Teaching Hours						
BCA 606	.NET/PHP Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	50	1
BCA 607	Major Project	-	-	<mark>4</mark>	100	<del>50</del>	150	2
BCA 608	Seminar	-	-	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL		4	8	310	440	750	24
	Grand Total of Credits		25	38	1660	2840	4500	159

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester .The progress will be monitored through seminars and progress reports.

- 1. The total number of the credits of BCA Program are = 159
- 2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 149 credits.



# Bachelor of Computer Application BCA (2017-18)

# **BCA Course Structure (2017-18)**

## Semester - I

THEORY P	PAPERS	N	lo. of		Mar	ks Allocatio	n	
			achin	0				
	<del>,</del>	Hours						
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 101	Computer Fundamentals	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 102	C Language	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 103	Mathematics	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 104	<b>Basics of Internet Programming</b>	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 105	Communication Skills	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA</b> 106	Principles of Management	<b>3</b>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
			lo. of		Sessional	Practical	Total	Credits
		Te	achin	g				
<b>PRACTICA</b>	LS/VIVA-VOCE	I	Iours					
	Computer Fundamentals & PC							
BCA 107	Computing		_	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<b>50</b>	1
<b>BCA</b> 108	C Language Lab		-	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 109	<b>Internet Programming Lab</b>		-	<mark>2</mark>	<b>30</b>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL		5	6	270	480	750	27

THEORY PAPERS		No. of Teaching Hours			Mar			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 201	Digital Electronics	4	-	I .	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 202	Computer Organization and Architecture	3	1		30	70	100	4
BCA 203	System Analysis & Design	4	Ī	•	<mark>30</mark>	<mark>70</mark>	100	4
BCA 204	Data Structure & Algorithms	<mark>3</mark>	1	Ī	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 205	Linux Environment	3	1	•	<mark>30</mark>	<mark>70</mark>	100	4
BCA 206	Environmental Studies	4	Ī		<mark>30</mark>	<mark>70</mark>	100	4
PRACTICA	LS/VIVA-VOCE	No. of Teaching Hours		Sessional	Practical	Total	Credits	
<b>BCA 207</b>	Data Structure & Algorithms Lab	_	_	2	<mark>30</mark>	<mark>20</mark>	<b>50</b>	1
BCA 208	Linux Environment Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<b>50</b>	1
BCA 209	Personality Development Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL		3	6	270	480	750	27

THEORY PAPERS		No. of Teaching Hours			g	Marl			
Code	Subject/Paper	-						Tota	Credit
		L		T	P	IA	EA	l	S
	Object Oriented Programming using								
<b>BCA 301</b>	C++	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 302</b>	Database Management System	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 303	Front End Design Tool (VB)	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 304	Managerial Personality Development	4		-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 305	<b>Technical Communication</b>	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 306	Discrete Mathematics	3		1	-	<del>30</del>	<mark>70</mark>	100	4
			No	. of		Sessiona	Practica	Tota	Credit
		T	eac	hin	g	1	1	l	S
PRACTICA	LS/VIVA-VOCE	Hours							
BCA 307	OOPS Using C++ Lab	-		-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 308	DBMS Lab	-		I	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 309	Front End Design Tool (VB) Lab	-			2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
	TOTAL	19		5	6	270	480	750	27

### Semester - IV

THEORY	PAPERS	_	o. of		Marks Allocation			
			aciiii Iours	0				
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 401	Operating Systems	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 402	Computer Oriented Numerical & Statistical Methods Using C	3	1		30	70	100	4
BCA 403	Java Programming	3	1	I	30	<mark>70</mark>	100	4
BCA 404	Software Engineering	4	II	Ī	30	<mark>70</mark>	100	4
BCA 405	Data Mining & Data Warehousing	4			30	<mark>70</mark>	100	4
BCA 406	Communication Skills- Scientific & Technical Writing	3	1		30	70	100	4
PRACTICA	No. of Teaching PRACTICALS/VIVA-VOCE Hours		Sessional	Practical	Total	Credits		
BCA 407	<mark>Java</mark>	-	-	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 408	Software Engineering Lab	-	-	2	<mark>30</mark>	20	<del>50</del>	1
BCA 409	Communication Technical Lab	-		2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL		4	6	270	480	750	27

## Semester - V

THEORY	THEORY PAPERS		No. each Hou	ing	3	Mar			
Code	Subject/Paper	L	]	Γ	P	IA	EA	Total	Credits
BCA 501	Computer Networks	3			-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 502	System Software	4		П		<mark>30</mark>	<mark>70</mark>	100	4
BCA 503	Advanced Internet Programming	3			Ī	<mark>30</mark>	<mark>70</mark>	100	4
BCA 504	Advance Java	3			Ī	<mark>30</mark>	<mark>70</mark>	100	4
BCA 505	Computer Graphics	3			Ī	<mark>30</mark>	<mark>70</mark>	100	4
BCA 506	E-Commerce	4			Ī	<mark>30</mark>	<mark>70</mark>	100	4
		No. of Teaching		Sessional	Practical	Total	Credits		
PRACTICA	LS/VIVA-VOCE		Hou	rs					
BCA 507	Advance Internet Programming Lab	_			2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 508	Advance Java Lab				2	<mark>30</mark>	<mark>20</mark>	50	1
BCA 509	Summer Project Seminar			П	2	<mark>30</mark>	<mark>20</mark>	50	1
	TOTAL			1	6	270	480	750	27

THEORY P	APERS	Te	lo. of achin	g	Marl	n		
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 601	Advance Computer Networks	3	1	_	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 602	Management Information System	4	-	_	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 603	Artificial Intelligence	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
Elective (an	y one)							
BCA 604A	.NET Programming	3	1		30	70	100	4
BCA 604B	Fundamental of PHP	3	1		30	70	100	4
BCA 604C	Principles of Accounting	3	1		30	70	100	4
BCA 604D	Intellectual Property Rights	3	1		30	70	100	4
Elective (an	y one)							
BCA 605A	Social Implications of IT	3	1		30	70	100	4
BCA 605B	Mobile Computing	3	1		30	70	100	4
BCA 605C	Cyber Ethics & Crime	3	1		30	70	100	4
BCA 605D	Entrepreneurship	3	1		30	70	100	4
		_	lo. of		Sessional	Practical	Total	Credits
DD 4 CTIC 4			achin	_				
	LS/VIVA-VOCE	Hours		20	20	50	•	
BCA 606	NET/PHP Lab		H	2	30	20	50	<u> </u>
BCA 607	Major Project		H	4	100	50 20	150	2
BCA 608	Seminar	16		2	30	20	<mark>50</mark>	<u> </u>
	TOTAL		4	8	310	440	750	24
	Grand Total of Credits		25	38	1660	2840	4500	159

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester .The progress will be monitored through seminars and progress reports.

- 1. The total number of the credits of BCA Program are = 159
- 2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 149 credits.



# Bachelor of Computer Application BCA (2018-19)

# **BCA Course Structure (2018-19)**

## Semester - I

THEORY P	PAPERS		No. of		Mar	ks Allocatio	n	
			eachi	_				
			Hour	5		1	1	
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 101	Computer Fundamentals	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 102	C Language	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 103	Mathematics	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 104	<b>Basics of Internet Programming</b>	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 105	Communication Skills	4	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA</b> 106	Principles of Management	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
			No. of		Sessional	Practical	Total	Credits
		To	eachi	ıg				
<b>PRACTICA</b>	LS/VIVA-VOCE	]	Hour	5				
<b>BCA 107</b>	Computer Fundamentals Lab		_	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<b>50</b>	1
BCA 108	C Programming	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 109	Internet Programming Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
TOTAL		19	5	6	270	480	750	27

THEORY PAPERS		Tea	o. of achin lours	g	Mar			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 201	Digital Electronics	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	4
<b>BCA 202</b>	Computer Organization and	_						
	Architecture	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 203</b>	System Analysis & Design	<mark>4</mark>	•	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 204	Data Structure & Algorithms	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 205	Linux Environment	3	1	-	<b>30</b>	<mark>70</mark>	100	4
BCA 206	Environmental Studies	<mark>4</mark>	<b>-</b>	-	30	<mark>70</mark>	100	4
		N	o. of		Sessional	Practical	Total	Credits
		Tea	achin	g				
<b>PRACTIC</b> A	ALS/VIVA-VOCE	Н	ours					
BCA 207	Data Structure & Algorithms Lab		-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 208	Linux Environment Lab	-	-	2	<mark>30</mark>	20	50	1
BCA 209	Personality Development	-	•	2	<mark>30</mark>	20	50	1
	TOTAL	21	3	6	270	480	750	27

THEORY PAPERS		No. of Teaching Hours			g	Marl			
Code	Subject/Paper							Tota	Credit
		L	,	T	P	IA	EA	l	S
	Object Oriented Programming Using								
<b>BCA 301</b>	C++	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 302</b>	Database Management System	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 303</b>	Front End Design Tool (VB)	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 304</b>	Managerial Personality Development	4		-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 305</b>	<b>Technical Communication</b>	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 306</b>	Discrete Mathematics	3		1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
			No	o. of	•	Sessiona	Practica	Tota	Credit
		T	ea	chin	g	1	1	l	S
PRACTICA	LS/VIVA-VOCE	Hours							
BCA 307	OOPS Using C++ Lab	-		-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 308	Database Management System Lab	-		-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 309	Front End Design Tool (VB) Lab				2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
	TOTAL	19	)	5	6	270	480	750	27

### Semester - IV

THEORY	PAPERS	_	lo. of		Mar	ks Allocatio	n	
			achin Iours	0				
Code	Subject/Paper	L	T	P	IA EA Total			Credits
BCA 401	Operating Systems	3	1	-	30	<del>70</del>	100	4
BCA 402	Computer Oriented Numerical and Statistical Methods	3	1		30	70	100	4
BCA 403	Java Programming	3	1		30	<mark>70</mark>	100	4
BCA 404	Software Engineering	4	II		<mark>30</mark>	<mark>70</mark>	100	4
BCA 405	Data Mining & Data Warehousing	4		Ī	<mark>30</mark>	<mark>70</mark>	100	4
BCA 406	Communication Skills- Scientific & Technical Writing	3	1		30	70	100	4
PRACTICA	PRACTICALS/VIVA-VOCE		lo. of achin lours	g	Sessional	Practical	Total	Credits
BCA 407	Java Programming Lab	-	-	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 408	Software Engineering Lab	-		2	<mark>30</mark>	20	<mark>50</mark>	1
BCA 409	Communication Technical Lab	I		2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL	20	4	6	270	480	750	27

## Semester - V

THEORY F	PAPERS	N	lo. of		Mar	n		
			achin	_				
		F	Iours					
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 501	Computer Networks	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 502	System Software	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 503	Advanced Internet Programming	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 504	Advance Java	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 505	Computer Graphics	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 506	E-Commerce	4		-	<del>30</del>	<del>70</del>	100	4
		N	lo. of		Sessional	Practical	Total	Credits
		Te	achin	g				
<b>PRACTICA</b>	LS/VIVA-VOCE	E	Iours					
<b>BCA 507</b>	Advance Internet Programming Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 508	Advance Java Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 509	Summer Project Seminar	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
	TOTAL		4	6	270	480	750	27

THEORY P	PAPERS	Tea	o. of achin	g	Mar	n		
Code	Subject/Paper	L	Т	P	IA	EA	Total	Credits
BCA 601	Advance Computer Networks	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 602	Management Information System	4	-	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 603	Artificial Intelligence	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
Elective (an	y one)							_
BCA 604A	.NET Programming	3	1		30	70	100	4
BCA 604B	Fundamental of PHP	3	1		30	70	100	4
BCA 604C	Principles of Accounting	3	1		30	70	100	4
BCA 604D	Intellectual Property Rights	3	1		30	70	100	4
Elective (an	y one)							
BCA 605A	Social Implications of IT	3	1		30	70	100	4
BCA 605B	Mobile Computing	3	1		30	70	100	4
BCA 605C	Cyber Ethics & Crime	3	1		30	70	100	4
BCA 605D	Entrepreneurship	3	1		30	70	100	4
			o. of		Sessional	Practical	Total	Credits
DD 4 COTTO 4	TO WITH A TO OR		achin	_				
	LS/VIVA-VOCE	Hours		20	0.0	<b>50</b>		
BCA 606	NET/PHP Lab	-	-	2	30	20	50	1
BCA 607	Major Project		<u> </u>	4	100	<mark>50</mark>	150	2
BCA 608	Seminar	-	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL	16 115	4	8	310	440	750	24
	Grand Total of Credits		25	38	1660	2840	4500	159

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester .The progress will be monitored through seminars and progress reports.

- 1. The total number of the credits of BCA Program are = 159
- 2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 149 credits.



# Bachelor of Computer Application BCA (2019-20)

# **BCA Course Structure (2019-20)**

## Semester - I

THEORY PAPERS		1	No. of		Mar			
		Teaching						
		I	<b>Hours</b>					
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 101	Computer Fundamentals	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 102	C Language	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 103	Mathematics	3	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 104	<b>Basics of Internet Programming</b>	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 105	Communication Skills	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA</b> 106	Principles of Management	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
		No. of		Sessional	Practical	Total	Credits	
	Teac		Teaching					
<b>PRACTICA</b>	LS/VIVA-VOCE	Hours						
	Computer Fundamentals & PC							
BCA 107	Computing Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<b>50</b>	1
<b>BCA</b> 108	C Language Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 109	<b>Internet Programming Lab</b>	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
	TOTAL		5	6	270	480	750	27

THEORY PAPERS		No. of Teaching Hours			Mar			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 201	Digital Electronics	4	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 202	Computer Organization and Architecture	3	1		30	70	100	4
BCA 203	System Analysis & Design	4	Ī	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 204	Data Structure & Algorithms	<mark>3</mark>	1	<u>-</u>	<mark>30</mark>	<mark>70</mark>	100	4
BCA 205	Linux Environment	3	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 206	Environmental Studies	4	Ī	-	<mark>30</mark>	<mark>70</mark>	100	4
PRACTICA	LS/VIVA-VOCE	No. of Teaching Hours		Sessional	Practical	Total	Credits	
<b>BCA 207</b>	Data Structure & Algorithms Lab	_	_	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<b>50</b>	1
BCA 208	Linux Environment Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 209	Personality Development Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
	TOTAL	21	3	6	270	480	750	27

THEORY		No. of		Marl	n				
PAPERS		Teaching							
		J	Iou	rs					
Code	Subject/Paper							Tota	Credit
		L	1	Γ	P	IA	$\mathbf{E}\mathbf{A}$	l	S
	Object Oriented Programming Using								
<b>BCA 301</b>	C++	3	1		_	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 302	Database Management System	<b>3</b>	1		-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 303</b>	Front End Design Tool (VB)	3	1		-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 304</b>	Managerial Personality Development	4			-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 305</b>	<b>Technical Communication</b>	<b>3</b>	1		-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
<b>BCA 306</b>	Discrete Mathematics	3	1		-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
		I	No.	of		Sessiona	Practica	Tota	Credit
		Te	ach	in	g	1	1	1	S
<b>PRACTICA</b>	LS/VIVA-VOCE	1	Iou	rs					
BCA 307	OOPS Using C++ Lab				2	<mark>30</mark>	<mark>20</mark>	50	1
<b>BCA 308</b>	DBMS Lab	_			2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
<b>BCA 309</b>	Front End Design Tool (VB) Lab	-			<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL	19	5	5	6	270	480	750	27

### Semester - IV

THEORY PAPERS		No. of Teaching			Mar			
			Hours					
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 401	Operating Systems	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 402	Computer Oriented Numerical & Statistical Methods Using C	3	1		30	70	100	4
BCA 403	Java Programming	3	1	I	30	<mark>70</mark>	100	4
BCA 404	Software Engineering	4	II	Ī	30	<mark>70</mark>	100	4
BCA 405	Data Mining & Data Warehousing	4			30	<mark>70</mark>	100	4
BCA 406	Communication Skills- Scientific & Technical Writing	3	1		30	70	100	4
PRACTICALS/VIVA-VOCE		Te	lo. of achin	g	Sessional	Practical	Total	Credits
BCA 407	Java Lab	_	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
<b>BCA 408</b>	Software Engineering Lab	-		2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 409	Communication Technical Lab	-		2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL	20	4	6	270	480	750	27

## Semester - V

THEORY PAPERS		N	o. of		Mar			
			achin	g				
		Н	ours			r	1	
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BCA 501	Computer Networks	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 502	System Software	<mark>4</mark>	-	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 503	Advanced Internet Programming	<mark>3</mark>	1	•	<del>30</del>	<mark>70</mark>	100	4
BCA 504	Advance Java	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	<mark>4</mark>
BCA 505	Computer Graphics	<mark>3</mark>	1	-	<mark>30</mark>	<mark>70</mark>	100	4
BCA 506	E-Commerce	<mark>4</mark>		-	<mark>30</mark>	<mark>70</mark>	100	4
		No. of		Sessional	Practical	Total	Credits	
		Teaching						
PRACTICA	LS/VIVA-VOCE	Hours						
BCA 507	Advance Internet Programming Lab	-	-	2	<mark>30</mark>	<mark>20</mark>	<del>50</del>	1
BCA 508	Advanced Java Lab		-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 509	Summer Project Seminar		-	<mark>2</mark>	<mark>30</mark>	<b>20</b>	<b>50</b>	1
	TOTAL	20	4	6	270	480	750	27

THEORY PAPERS		Tea	o. of	ıg	Marl			
Code	Subject/Paper	L	lours T	Р	IA	TC A	Total	Credits
BCA 601	Advance Computer Networks	3	1	P	30	EA 70	10tai 100	Credits
BCA 602	Management Information System	4	<u> </u>		30	70 70	100	4
BCA 603	Artificial Intelligence	3	1		30	70 70		4 4
Elective (an		<u> </u>	L	<u> </u>	<u> </u>	<mark>/U</mark>	100	<mark>4</mark>
					2.0		100	
BCA 604A	.NET Programming	3	1		30	70	100	4
BCA 604B	Fundamental of PHP	3	1		30	70	100	4
BCA 604C	Principles of Accounting	3	1	-	30	70	100	4
BCA 604D	Intellectual Property Rights	3	1		30	70	100	4
Elective (an	y one)							
BCA 605A	Social Implications of IT	3	1		30	70	100	4
BCA 605B	Mobile Computing	3	1		30	70	100	4
BCA 605C	Cyber Ethics & Crime	3	1		30	70	100	4
BCA 605D	Entrepreneurship	3	1		30	70	100	4
		No. of			Sessional	Practical	Total	Credits
		Teaching						
<b>PRACTICA</b>	LS/VIVA-VOCE	Hours						
BCA 606	.NET/PHP Lab		_	<mark>2</mark>	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
BCA 607	Major Project	-	-	<mark>4</mark>	100	<del>50</del>	150	2
BCA 608	Seminar	-	-	2	<mark>30</mark>	<mark>20</mark>	<mark>50</mark>	1
	TOTAL	16	4	8	310	440	750	24
	Grand Total of Credits	115	25	38	1660	2840	4500	159

The student will submit a synopsis at the beginning of the semester for approval from the departmental committee in a specified format, thereafter he/she will have to present the progress of the work through seminars and progress reports. Seminar related to the project should be delivered one after starting of semester .The progress will be monitored through seminars and progress reports.

- 1. The total number of the credits of BCA Program are = 159
- 2. Each student shall be required to appear for examinations in all courses. However, for the award of the degree a student shall be required to earn minimum of 149 credits.