

**SYMBIOSIS INSTITUTE OF COMPUTER STUDIES AND RESEARCH**  
**BACHELOR OF COMPUTER APPLICATIONS**  
**PROGRAMME STRUCTURE 2015-18**

- 1. OBJECTIVES** BCA offers the prequalification for professionals heading for smart career in the IT field, which measures up to international standards. On completing this course one can do higher studies such as MCA, MBA etc., in any UGC recognized universities or in any other reputed institution in India or abroad.
- 2. DURATION** Three Years Full Time
- 3. INTAKE** 90 Students
- 4. RESERVATION**
  - I. Within the sanctioned intake:
    - a) Scheduled Castes - 15%
    - b) Scheduled Tribes - 7.5%
    - c) Differently abled - 3%
    - d) Serving/Retired Defense Personnel and their Children - 5%
  - II. Over and above the sanctioned intake:
    - a) Kashmiri Migrants - 2 Seats
    - b) International Students - 15%
- 5. ELIGIBILITY** Student passing XII from any stream or equivalent government approved diploma in Engineering/Technology with minimum 50% marks (45% for SC/ST candidates)
- 6. SELECTION PROCEDURE** Symbiosis Entrance Test Score, Personal Interaction and Writing Ability Test (PI-WAT)
- 7. MEDIUM OF INSTRUCTION** English
- 8. PROGRAMME PATTERN** Semester Pattern - 6 Semesters

- 9. COURSES & SPECIALIZATION** As per Annexure A
- 10. FEE**
- |                               |                     |
|-------------------------------|---------------------|
| <b>Indian Students</b>        |                     |
| Academic Fee p.a.             | Rs. 1,35,000        |
| Institute Deposit             | Rs. 10,000          |
| <b>Total</b>                  | <b>Rs. 1,45,000</b> |
| <b>International Students</b> |                     |
| Academic Fee p.a.             | Rs. 2,17,500        |
| Institute Deposit             | Rs. 10,000          |
| <b>Total</b>                  | <b>Rs. 2,27,500</b> |
- 11. ASSESSMENT** All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 40% internal component and 60% external component [University] examination.
- 12. STANDARD OF PASSING** The assessment of the student for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% absolute marks in each head of passing will be declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 4 out of maximum of 10 CGPA for the programme.
- 13. AWARD OF DEGREE** **Bachelor of Computer Applications (BCA)** will be awarded at the end of semester VI examination by taking into consideration the performance of all semester examinations after obtaining minimum 4.00 CGPA out of 10 CGPA.

**Annexure A  
Semester I**

<b>Catalog Course Code</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Credits</b>	<b>Internal Marks</b>	<b>External Marks</b>	<b>Total Marks</b>	
T3211	030121101	Digital Electronics	C	2	20	30	50	
T3198	030121102	Introduction to Python	C	2	20	30	50	
T3207	030121103	Computer Fundamentals	C	2	20	30	50	
T3196	030121104	Foundation Web Technology	C	4	40	60	100	
T3256	030121105	IT Tools for Statistics-I	C	2	20	30	50	
T3214	030121106	Logic Development and Programming Concepts	C	2	50	-	50	
T3213	030121107	Introduction to Operating System	C	2	20	30	50	
T3247	030121108	Business Automation Tools	C	2	50	-	50	
T2495	030121109	Business Communication	C	2	50	-	50	
T3322	030121110	Elements of Mathematics	C	2	20	30	50	
			<b>Total</b>		<b>22</b>	<b>310</b>	<b>240</b>	<b>550</b>
T4005	030121111	* Integrated Disaster Management	-	-	-	-	Letter Grade	

**Semester II**

<b>Catalog Course Code</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Category</b>	<b>Credits</b>	<b>Internal Marks</b>	<b>External Marks</b>	<b>Total Marks</b>
T3215	030121201	Microprocessors	C	4	40	60	100
T3224	030121202	Network Essentials	C	2	20	30	50
T3194	030121203	Client Side Web Technology	C	4	40	60	100
T3206	030121204	Advanced Programming in Python	C	2	20	30	50

T3257	030121205	IT Tools for Statistics-II	C	2	20	30	50
T3209	030121206	Data Structures	C	2	20	30	50
T3244	030121207	Introduction to Database Management System	C	2	20	30	50
<b>Electives: Select any one course from OPT-1 and OPT-2</b>							
T6197	030121208	German A-1 - Paper 1	OPT-1	4	100	-	100
T6191	030121209	French A-1 - Paper 1	OPT-2	4	100	-	100
<b>Total</b>				<b>22</b>	<b>280</b>	<b>270</b>	<b>550</b>

### Semester III

Catalog Course Code	Course Code	Course Title	Category	Credits	Internal Marks	External Marks	Total Marks
T3208	030121301	Computer Organisation	C	4	40	60	100
T3236	030121302	Concepts of Object Oriented Paradigm	C	2	20	30	50
T3203	030121303	Programming in C	C	4	40	60	100
T3240	030121304	Software Practices	C	4	40	60	100
T3204	030121305	Server Side Web Technology	C	4	40	60	100
T3210	030121306	Design and Implementation of Algorithms	C	2	20	30	50
T3239	030121307	Relational Database Management System	C	4	40	60	100
T3318	030121308	Optimization Techniques in IT	C	4	40	60	100
<b>Total</b>				<b>28</b>	<b>280</b>	<b>420</b>	<b>700</b>

### Semester IV

Catalog Course Code	Course Code	Course Title	Category	Credits	Internal Marks	External Marks	Total Marks
T3202	030121401	Object Oriented Programming	C	4	40	60	100
T3205	030121402	Web Development	C	2	20	30	50

		Using CMS						
T3243	030121403	Verification and Validation Techniques	C	4	40	60	100	
T3197	030121404	Introduction to Best Programming Practices	C	4	40	60	100	
T3267	030121405	Advanced Programming in C	C	2	20	30	50	
T8000	030121406	Service Learning	C	4	100	-	100	
<b>Electives: Select any one course from OPT-1 to OPT- 9 from the courses offered under Liberal Arts for Floating Credits Programme</b>								
T6099	030121407	An Overview of World Literature	OPT-1	2	50	-	50	
T6181	030121408	Understanding Cinema	OPT-2	2	50	-	50	
T6182	030121409	Appreciating Cinema	OPT-3	2	50	-	50	
T6246	030121410	Music in Media I	OPT-4	2	50	-	50	
T6255	030121411	Introduction to Theater	OPT-5	2	50	-	50	
T6307	030121412	Basic Psychology	OPT-6	2	50	-	50	
T6334	030121413	Basic Sociology	OPT-7	2	50	-	50	
T6274	030121414	Foundations of Ethics	OPT-8	2	50	-	50	
T6096	030121415	Creative Writing	OPT-9	2	50	-	50	
<b>416 and 417 are Courses under Floating Credits Programme</b>								
T3258	030121416	Current Trends and Practices in IT	C	3	75	-	75	
T3803	030121417	Project	C	3	75	-	75	
				<b>Total</b>	<b>28</b>	<b>460</b>	<b>240</b>	<b>700</b>

### Semester V

Catalog Course Code	Course Code	Course Title	Category	Credits	Internal Marks	External Marks	Total Marks
T3220	030121501	Information Security	C	2	20	30	50
T3241	030121502	Software Project Practices	C	4	40	60	100
T3199	030121503	Java Enterprise Technologies	C	4	40	60	100
T3237	030121504	Foundations of Data Ware Housing and Data Mining	C	4	40	60	100
T3701	030121505	Dissertation	C	2	50	-	50

T3231	030121506	Social Issues in Computing	C	2	20	30	50
T1234	030121507	Information Technology and Regulatory Compliance	C	2	20	30	50
T3238	030121508	Human Computer Interaction	C	2	20	30	50
<b>Electives: Select any two courses from OPT-1 to OPT-5</b>							
T3223	030121509	Mobile Communications	OPT-1	2	20	30	50
T3248	030121510	Computer Animation	OPT-2	2	20	30	50
T3212	030121511	Distributed Computing	OPT-3	2	20	30	50
T3225	030121512	Network Planning and Design	OPT-4	2	20	30	50
T2339	030121513	Introduction to Entrepreneurship	OPT-5	2	20	30	50
				<b>Total</b>	<b>26</b>	<b>290</b>	<b>360</b>
						<b>360</b>	<b>650</b>

## Semester VI

Catalog Course Code	Course Code	Course Title	Category	Credits	Internal Marks	External Marks	Total Marks
T3242	030121601	Software Quality Management and Standards	C	4	40	60	100
T3197	030121602	Introduction to Best Programming Practices	C	4	40	60	100
T3805	030121603	Project	C	8	80	120	200
<b>Electives: Select any two courses from OPT-1 to OPT-5</b>							
T3201	030121604	Mobile Programming	OPT-1	4	40	60	100
T3195	030121605	Computer Game Design	OPT-2	4	40	60	100
T3221	030121606	Introduction to Cloud Computing	OPT-3	4	40	60	100
T3222	030121607	Introduction to Vulnerability Assessment Penetration Testing	OPT-4	4	40	60	100
T2352	030121608	Business Modeling and Business Plan	OPT-5	4	40	60	100
				<b>Total</b>	<b>24</b>	<b>240</b>	<b>360</b>
						<b>360</b>	<b>600</b>

**Summary**

<b>Semester</b>	<b>Internal Credits</b>	<b>External Credits</b>	<b>Total Credits</b>	<b>Total Marks</b>
Semester I	6	16	22	550
Semester II	4	18	22	550
Semester III	-	28	28	700
Semester IV	12	16	28	700
Semester V	2	24	26	650
Semester VI	-	24	24	600
<b>Total</b>	<b>24</b>	<b>126</b>	<b>150</b>	<b>3750</b>

\* Integrated Disaster Management is mandatory for the award of degree.