



**Faculty of Computer Science**  
**Shri C.J. Patel College of Computer Studies**  
**B.C.A(Bachelor of Computer Application)**

### **1. Programme Structure**

The Under Graduate Degree Programme in Computer Science leading to the degree of B.C.A (Bachelor of Computer Application) is offered by the Shri C.J. Patel College of Computer Studies. The Programme consists of Six Semester and is approved by Sankalchand Patel University. The duration of the Programme is 3 years.

### **2. Admission Eligibility to First Year B.C.A.**

The candidates should have passed 10+2 examination from a University/Board or any other examinations recognized as equivalent to 10+2 examination by the Association of Indian Universities (AIU) with English as one of the subjects. The candidates with any other qualification approved by the Sankalchand Patel University as equivalent to any of the above examinations shall also be considered for the admission.

### **3. Medium of Instruction and Examinations**

Medium of instruction and examination of the Programme shall be English.

### **4. Working days in a Semester**

Each semester shall consist of minimum 90 working days. The odd semesters shall commence from June/July while the even semesters commence from December/January in an academic year.

### **5. Attendance and Academic Progress**

The Institute requires 100% attendance and punctuality of students in classes and other activities. However, the students are allowed to take Leave upto 25% of the total classes in a course for genuine reasons. The students need to submit Leave Application (in the prescribed format) in the Students' Section before availing the Leave or within 48 hours of resuming classes if not able to submit in advance due to sickness/emergency. The prescribed format of Leave Application is given as Appendix- II) of this Handbook and also be available in the Students' Section. In any case, the students must maintain a minimum of 75% attendance in each course (both in theory and practical) to be eligible for appearing in the examinations.

A complete attendance record of each student shall be maintained for all the components i.e. Theory, Practical, Laboratory etc. Hence, the students should ensure to meet the attendance criteria each accordingly.

## 6. Program/Course Credit Structure

According to the Credit Based Semester System, the academic load viz. theory classes, tutorials, practicals etc. are measured in terms of credits. On satisfactory completion of the course, a candidate earns credits. The amount of credit associated with a course shall depend upon the number of teaching hours per week in the course. Similarly, the credit associated with any of the other academic, co-curricular/extra-curricular activities shall depend upon the quantum of hours expected to be put-in in such activities per week.

## 7. Assigning of Credits

### 7.1. Theory and Laboratory Courses

Courses are broadly classified as Theory, Tutorial and Practical components. The Theory courses consist of lecture (L) and /or tutorial (T) hours, while the Practical (P) courses consist of the laboratory work hours. Number of Credits for a course shall depend on the number of teaching hours per week in that course, and is obtained by using a multiplier of one (1) for lecture and tutorial hours, and a multiplier of half (1/2) for practical (laboratory) hours. Thus, for example, a theory course having three lectures and one tutorial per week shall be of 04 Credits. Similarly, a course having 04 laboratory hours per week shall carry 02 Credits.

### 7.2. Minimum Credit Requirements

The minimum credit points, a student needs to earn to be eligible for award of B.C.A degree is 144 credit points in all six Semesters. These credits points are divided into Theory, Tutorials, Practical and Projects. The credits are distributed semester-wise as shown in Table VII. Courses generally progress in sequences, building competencies and their positioning indicates certain academic maturity on the part of the learners. Learners are expected to follow the semester-wise schedule of courses given in the syllabus.

## 8. Curriculum & Teaching Scheme

The curriculum of the Programme shall include Semester-wise Theory & Practical as given in Table – I to VI below. The number of hours to be assigned to each component i.e. theory, tutorial and practical in a course shall not be less than as shown in the Table – I to VI.

**TABLE I : Course of study for semester I**

Course Code	Subject Title	Teaching Scheme (Hours per week)			
		Lecture	Tutorial	Practical	Credit
1CS1010101	Fundamentals of Computer Programming	4	1	2	6
1CS1010102	Introduction to Office Packages and Operating Platforms	4	1	2	6
1CS1010103	Fundamentals of Computer Organization	3	1	-	4
1CS1010104	Communication Skills – I	2	-	2	3

1CS1010105	Workshop-I (Introduction to Computer Hardware, Peripherals & Networking Devices)	-	1	4	3
1CS1010191	Yoga ,Meditation and Critical Thinking *	1	-	2	-
<b>Total</b>		<b>14</b>	<b>4</b>	<b>12</b>	<b>22</b>

\*Non University Examination (NUE)

**TABLE II : Course of study for semester II**

Course Code	Subject Title	Teaching Scheme (Hours per week)			
		Lecture	Tutorial	Practical	Credit
1CS1010201	Advance Programming Using C	4	1	2	6
1CS1010202	Introduction to Internet and Web Designing	3	1	2	5
1CS1010203	Database Management Systems	4	1	2	6
1CS1010204	Communication Skills-II	2	-	2	3
1CS1010205	Workshop-II(Configuration of Computer Hardware, Peripherals & Networking Devices)	-	-	4	2
1CS1010206	Environmental Studies	3	-	-	3
<b>Total</b>		<b>16</b>	<b>3</b>	<b>12</b>	<b>25</b>

**TABLE III : Course of study for semester III**

Course Code	Subject Title	Teaching Scheme (Hours per week)			
		Lecture	Tutorial	Practical	Credit
1CS1010301	Object Oriented Programming Using C++	3	-	4	5
1CS1010302	Advanced Database Management System	3	-	4	5
1CS1010303	Operating System	3	-	2	4
1CS1010304	Mathematics	3	1	-	4
	Elective - I	3	1	-	4

1CS1010308	Desktop Publishing Tools – I	-	-	4	2
<b>Total</b>		<b>15</b>	<b>2</b>	<b>14</b>	<b>24</b>

**List of Elective Subjects :**

<b>Elective – I</b>	
1CS1010305	Computer Network
1CS1010306	Enterprise Resource Planning
1CS1010307	Management Information System

**TABLE IV : Course of study for semester IV**

Course Code	Subject Title	Teaching Scheme (Hours per week)			
		Lecture	Tutorial	Practical	Credit
1CS1010401	Data Structure	3	-	4	5
1CS1010402	Visual and Windows Programming	3	-	4	5
1CS1010403	System Analysis and Design	3	-	2	4
1CS1010404	Statistical Computing	3	1	-	4
	Elective – II	3	1	-	4
1CS1010408	Desktop Publishing Tools – II	-	-	4	2
<b>Total</b>		<b>15</b>	<b>2</b>	<b>14</b>	<b>24</b>

**List of Elective Subjects :**

<b>Elective – II</b>	
1CS1010405	E-Commerce
1CS1010406	Introduction to Cloud Computing
1CS1010407	Embedded System

**TABLE V : Course of study for semester V**

Course Code	Subject Title	Teaching Scheme (Hours per week)			
		Lecture	Tutorial	Practical	Credit
1CS1010501	Web Programming	4	-	4	6
1CS1010502	Building Application using Core JAVA	4	1	4	7

1CS1010503	Open Source Web Programming using PHP	4	1	4	7
	Elective-III	4	-	-	4
1CS1010507	Universal Human Values and Professional Ethics *	3	-	-	-
<b>Total</b>		<b>19</b>	<b>2</b>	<b>12</b>	<b>24</b>

**List of Elective Subjects :**

<b>Elective – III</b>	
1CS1010504	Object Oriented Analysis and Design Methodology
1CS1010505	Data Communication and Network Management
1CS1010506	Software Engineering

\*Non University Examination (NUE)

**TABLE VI : Course of study for semester VI**

Course code	Subject Title	Teaching Scheme (Hours per week)			
		Lecture	Tutorial	Practical	Credit
1CS1010601	Advance Web Programming	4	-	4	6
1CS1010602	Building Application using Advance JAVA	4	-	4	6
1CS1010603	Data Warehouse and Data Mining	4	-	-	4
1CS1010604	System Development Project	-	-	16	8
<b>Total</b>		<b>12</b>	<b>-</b>	<b>24</b>	<b>24</b>

**TABLE VII : Semester wise credits distribution**

Semester	Credit points
I	22
II	25
III	24
IV	24
V	24
VI	24
Extracurricular/ Co curricular activities	01*
Total credit points for the program	144

\* The credit points assigned for extracurricular and or co-curricular activities shall be given by the Principals of the colleges and the same shall be submitted to the University. The criteria to acquire this credit point shall be defined by the colleges from time to time.