

**GOVERNOR'S SECRETARIAT, BIHAR**

RAJ BHAVAN, PATNA-800022

**Letter No.-PU(Regulation) -08/2005(Part)- /GS(I), Dated-  
From,**

**Anand Abhishek**  
Law Officer-Cum- I/C OSD (Judl.)

**To,**

**The Vice Chancellor,**  
Patna University,  
Patna.

**Sub:- Regarding approval of the newly formulated Ordinance and Regulations under CBCS of Bachelor of Computer Applications (B.C.A.) a self -financing programme.**

**Ref:- Letter no.- Acad/298/AKS/2336 dated- 01.09.2022**

**Sir,**

I am directed to invite a reference to letter no. SHEC/O&R/PU/CBCS/B.C.A./122/2022-504 dated-28.09.2022 received from the Member Secretary-cum-State Project Director, Bihar State Higher Education Council, Govt. of Bihar, Patna on the subject noted above and to inform that the Hon'ble Chancellor, after due consideration of the recommendation made by the Member Secretary-cum-State Project Director, State Higher Education Council, Govt. of Bihar, Patna and advice of the Advisory Committee and in exercise of powers conferred upon him under section 38(3) and 39(2)(ii) of the Patna University Act, 1976 (as amended up to date) has been pleased to approve the newly formulated Ordinance and Regulations under CBCS of Bachelor of Computer Applications (B.C.A.) a self -financing programme in Patna University, Patna (Copy enclosed).

Further necessary action may kindly be taken accordingly.

**Yours faithfully,**

**Encl.-As above.**

**Sd./-**

**(Anand Abhishek)**

**Law Officer-Cum- I/C OSD (Judl.)**

**Memo No.-PU(Regulation) -08/2005(Part)- /GS(I), Dated-**

Copy alongwith a copy of approved newly formulated Ordinance and Regulations under CBCS of Bachelor of Computer Applications (B.C.A) a self -financing programme under Patna University, Patna forwarded to the Principal Secretary, Education Departmen, Govt. of Bihar, Patna for information and necessary action.

**Encl:- As above.**

**Sd./-**

**Law Officer-Cum- I/C OSD (Judl.)**



E-mail Speed Post

## GOVERNOR'S SECRETARIAT, BIHAR

RAJ BHAVAN, PATNA-800022

**Memo No.-PU(Regulation) -08/2005(Part)- /GS(I), Dated-**

Copy forwarded to the Member Secretary-cum-State Project Director, Bihar State Higher Education Council, Govt. of Bihar, Bihar State Text Book Publishing Corporation Ltd. Campus, Budh Marg, Patna-800001 for information.

**Sd./-**

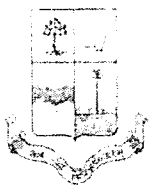
**Law Officer-Cum- I/C OSD (Judl.)**

**Memo No.-PU(Regulation) -08/2005(Part)- /GS(I), Dated-**

Copy alongwith a copy of approved newly formulated Ordinance and Regulations under CBCS of Bachelor of Computer Applications (B.C.A) a self-financing programme under Patna University, Patna forwarded to the Incharge, NIC / Computer Cell, Raj Bhavan, Bihar, Patna for uploading on the website of Raj Bhavan / Custodian, Guard file for record.

**Encl:- As above.**

**Law Officer-Cum- I/C OSD (Judl.)**



Patna University

Annex-I  
66/404

**PATNA UNIVERSITY, PATNA-800 005**  
**ORDINANCE & REGULATIONS FOR THE BACHELOR**  
**OF COMPUTER APPLICATIONS**  
**PROGRAMME UNDER CHOICE BASED CREDIT SYSTEM (C.B.C.S.)**  
**IN**  
**THE FACULTY OF SCIENCE**

**ORDINANCE**

1. The Under Graduate Degree Programme "**Bachelor of Computer Applications**" in the Faculty of Science shall be offered by the Patna University.
2. The Programme shall be of three years (Six Semesters) duration. The Bachelor of Computer Application shall be abbreviated as "**BCA**".
3. Admission to the BCA programme under the Choice Based Credit System (CBCS) is open to candidates who have passed the intermediate examination of Bihar School Examination Board or equivalent examination offered by other approved Boards (CBSE/ICSE/other State Board) with at least 45% marks in aggregate at the qualifying examination with Mathematics or Statistics.
4. Admission to the first semester of the BCA programme shall be made on the basis of marks obtained by the candidate at the Common Admission Entrance Test (CAET) conducted by the University or marks obtained in +2 examinations as decided by the Academic Council of the University.
5. The Admission Entrance Test Booklet will consist of 100 multiple choice type questions. The duration of the test shall be two hours. The booklet will consist of questions from General Knowledge, General Aptitude, Numerical Aptitude and Logical Reasoning.
6. The maximum number of seats for the Bachelor of Computer Applications shall be as follows:

Patna Science College	-	30
Patna College	-	30
B. N. College	-	60
Magadh Mahila College	-	60

Besides the above, there shall be five seats in each college under NRI Category. The seats under NRI Category shall be considered as over and above the sanctioned strength.

**Note:** NRI/Foreign candidates shall have to submit their application form with the specific recommendation by the Ministry of External Affairs along with the copies of the document showing NRI status.

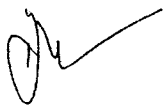
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Law Officer-cum-Incharge  
Officer of S. & J. (Judicial)

## 7. Fee structure:

The following is the breakup of fee details chargeable per semester by the candidates.

Table 1: Fee per semester for BCA

Sl. No.	Head/ Item	For Indian Students Fee in Rupees	Non-Residents Indian (NRI) and Foreign Students in US dollar (\$)
I.	Admission Fee	350/-	110
II.	Tuition fee	5800/-	1500
III.	Department of library	2000/-	200
IV.	Laboratory fee	2000/-	250
V.	Development fee	2000/-	250
VI.	Eklavya & Tarang (one time in each Academic Session)	50/-	25
VII.	<b>Total</b>	<b>12200/-</b>	<b>2335</b>
VIII.	Miscellaneous (Per semester)		
	Central library	100/-	10
	College Library	100/-	10
	Electricity fee	200/-	10
	Identity card fee	100/-	5
	NSS fee	50/-	5
	Parking	50/-	5
	Library Maintenances Fund	100/-	5
	Building Maintenance Fund	100/-	10
	Medical fee	100/-	5
	Athletic Fund (for University)	50/-	5
	Common room Fund	50/-	5
	Extra-curricular Fee (Cultural)	50/-	5
	Environmental Protection Fee	50/-	5
	Student's Welfare Fee	30/-	5
	Poor student's fund	20/-	5
	Student's Union Fund	100/-	5
	Society Subscription	50/-	5
	Magazine Fund	50/-	5
	Hand Book/Directory	50/-	5
	<b>Total</b>	<b>1,400/-</b>	<b>115</b>
IX.	<b>Total Fee in the 1<sup>st</sup> Semester</b>	<b>13,600/-</b>	<b>2,450</b>
X.	<b>Total Fee in the 2<sup>nd</sup>, 4<sup>th</sup> and 6<sup>th</sup> Semester (Each Semester) (Excluding Eklavya, Tarang, Identity Card &amp; Hand Book/Directory)</b>	<b>13,400/-</b>	<b>2,415</b>
XI.	<b>Total Fee in the 3<sup>rd</sup> and 5<sup>th</sup> Semester (Each Semester) (Including Eklavya &amp; Tarang) (Excluding Identity Card &amp; Hand Book/Directory)</b>	<b>13,450/-</b>	<b>2,420</b>



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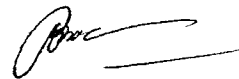
**Note:**

- i. The revision of the fee structure may be made every 3<sup>rd</sup> year after seeking the approval of the statutory bodies of the University.
8. Reservation of seats for different categories of candidates shall be made as per rules of the Patna University applicable at the time of admission provided, they qualify for admission into Programme as required in clause-4 of this ordinance.
9. Seats left unfilled in any of the categories for reserved seats under clause-8 because of the fact that no eligible candidates are available shall be filled-up by following reservation procedure/rules strictly as per sections of the PU Act, 1976 (Amended up to date).
10. (a) No applicant shall be admitted who, in the opinion of the Vice Chancellor, should not be admitted in the best interest of the University.  
(b) No applicant shall be admitted who has not applied for admission within the notified time, or who, on being selected for admission, does not get himself/herself enrolled within the specified time except when the delay is condoned by the Vice Chancellor.
11. Every candidate seeking admission to the Programme shall pay fee as prescribed from time to time by the University. The fee of the Programme shall be charged in full at the time of admission to the Programme.
12. The admission of any candidate admitted to Bachelor of Computer Applications (BCA) programme may be cancelled if it is found at any later point of time that any document submitted or statement made by him/her in his/her support of his/her admission to the Programme is forged (not genuine).
13. No candidate shall be allowed to register as a student in any other course leading to a Diploma or a Degree during the academic years of his/her study for the BCA programme.
14. The general superintendence and direction of the Programme shall be the responsibility of the Head of the Department.
15. If found guilty of gross misconduct, a student admitted to the Programme shall be expelled from Programme at any stage.
16. Any student who attended all courses/papers in a Semester as a regular student and sent up for the End Semester Examination (ESE) but fails to appear in the ESE shall have to appear in the subsequent forthcoming examination of a particular semester by paying the requisite examination fee.




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17. If a student has attendance less than 75% in any course/paper, then the candidate has to repeat the particular course/paper in the subsequent forthcoming examination by paying the proportionate fee of that semester as decided by University.
18. If a candidate has an attendance of 75% or more but fails in the CIA, in that case, the candidate has to appear for CIA in that particular course/paper in the subsequent forthcoming examination.
19. Every student should fill a registration form before the start of next semester.
20. Minor changes in the above ordinance may be made by the Academic Council if required in the interest of academics.
21. The general ordinance of Patna University shall cover any aspect not covered in the present ordinance.
22. The medium of instruction shall be English.



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# REGULATIONS

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## 1. General

- 1.1. This regulation shall be called the regulations for the Bachelor of Computer Applications programme of Patna University under the Choice Based Credit System (CBCS) Curriculum.

## 2. Programme of Study

- 2.1 The Bachelor of Computer Applications (BCA) shall be a three-years full-time programme.
- 2.2 The University shall award the Bachelor Degree in the Faculty of Science as "**Bachelor of Computer Applications (BCA)**".
- 2.3 The Examination for the Bachelor of Computer Applications shall consist of Six Semesters.
- 2.4 The programme Bachelor of Computer Applications (BCA) shall consist of courses (papers) spread over six semesters (I, II, III, IV, V and VI) comprising CC-1 to CC-14, AECC-1, AECC-2, AEC-1/SEC-1, AEC-2/SEC-2, DSE-1 to DSE-4 or GE-1 to GE-4 (as per Table-2). The CGPA shall be awarded on the performance of the candidate in all courses/papers (CC, AECC, AEC/ SEC and DSE/ GE).
- 2.5 The syllabus of the programme may be revised as per the demand of different stakeholders by BOCS and duly approved by the Academic Council.
- 2.6 Course structure for the Bachelor of Computer Applications Programme is as per Table-2 spanning over six semesters.

**Table 2: Course Structure**

### Semester-I

Sl No.	Name of Course	Type of Course	L-T-P	Credit	Marks
1.	Computer Fundamentals and Organizations	CC-1 (Th)	4-1-0	4	100
2.	Computer Fundamentals and Organizations	CC-1 (P)	0-0-4	2	100
3.	Programming Techniques Using C	CC-2 (Th)	4-1-0	4	100
4.	Programming Techniques Using C	CC-2 (P)	0-0-4	2	100
5.	English Communication	AECC- 1	2-0-0	2	100
6.	Generic Elective-1 (from basket)	GE-1	6-1-0	6	100
					<b>Total Credit - 20</b>

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Semester-II

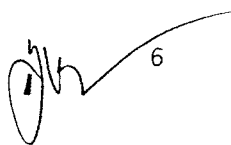
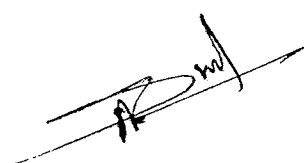
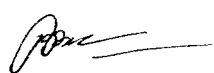
Sl No.	Name of Course	Type of Course	L-T-P	Credit	Marks
1.	Programming in JAVA	CC-3 (Th)	4-1-0	4	100
2.	Programming in JAVA	CC-3 (P)	0-0-4	2	100
3.	Computer System Architecture	CC-4	6-1-0	6	100
4.	Environmental Science	AECC- 2	2-0-0	2	100
5.	Generic Elective-2 (from basket)	GE-2	6-1-0	6	100
					<b>Total Credit - 20</b>

Semester-III

Sl No.	Name of Course	Type of Course	L-T-P	Credit	Marks
1.	Python Programming	CC-5 (Th)	4-1-0	4	100
2.	Python Programming	CC-5 (P)	0-0-4	2	100
3.	Operating Systems	CC-6 (Th)	4-1-0	4	100
4.	Operating Systems	CC-6 (P)	0-0-4	2	100
5.	Structured System Analysis and Design	CC-7	6-1-0	6	100
6.	Ability/ Skill Enhancement Course-1 (from basket)	AEC-1/SEC-1	2-0-0	2	100
7.	Generic Elective-3 (from basket)	GE-3	6-1-0	6	100
					<b>Total Credit - 26</b>

Semester-IV

Sl No.	Name of Course	Type of Course	L-T-P	Credit	Marks
1.	Computer Networks	CC-8	6-1-0	6	100
2.	VB.NET	CC-9 (Th)	4-1-0	4	100
3.	VB.NET	CC-9 (P)	0-0-4	2	100
4.	RDBMS and Oracle	CC-10 (Th)	4-1-0	4	100
5.	RDBMS and Oracle	CC-10 (P)	0-0-4	2	100
6.	Ability/Skill Enhancement Course-2 (from basket)	AEC-2/SEC-2	2-0-0	2	100
7.	Generic Elective-4 (from basket)	GE-4	6-1-0	6	100
					<b>Total Credit - 26</b>

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**Semester-V**

Sl No.	Name of Course	Type of Course	L-T-P	Credit	Marks
1.	Data Structures	CC-11 (Th)	4-1-0	4	100
2.	Data Structures	CC-11 (P)	0-0-4	2	100
3.	Introduction to Big Data Analytics	CC-12	6-1-0	6	100
4.	Discipline Specific Elective -1	DSE-1 (Th)	4-1-0	4	100
5.	Discipline Specific Elective -1	DSE-1 (P)	0-0-4	2	100
6.	Discipline Specific Elective -2	DSE-1 (Th)	4-1-0	4	100
7.	Discipline Specific Elective -2	DSE-1 (P)	0-0-4	2	100
					<b>Total Credit - 24</b>

**Semester-VI**

Sl No.	Name of Course	Type of Course	L-T-P	Credit	Marks
1.	Web Technologies	CC-13 (Th)	4-1-0	4	100
2.	Web Technologies	CC-13 (P)	0-0-4	2	100
3.	Android and App Development	CC-14 (Th)	4-1-0	4	100
4.	Android and App Development	CC-14 (P)	0-0-4	2	100
5.	Discipline Specific Elective -3	DSE-3 (Th)	4-1-0	4	100
6.	Discipline Specific Elective -3	DSE-3 (P)	0-0-4	2	100
7.	Project/Dissertation	DSE-4	0-1-6	6	100
					<b>Total Credit - 24</b>

**Total Credits- 140**

**\*L/T/P: (Lecture/ Tutorial/Practical: Number of classes per week**

(CC)- Core Course

(DSE)- Discipline Specific Elective Course

(AEC/SEC)-Ability/Skill Enhancement Course (From the Basket) (AECC)-

Ability Enhancement Compulsory Course

(GE) - Generic Elective Course (from the basket)

- GE and DSE may be a combination of theory and practical / or Only Theory; if only Theory, then L-T-P will be 6-1-0. If there is Practical, then L-T-P will be 4-1-0 for the theory and 0-0-4 or 0-0-6 for practical.

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**Table 3: Basket of Generic Elective (GE) Course**

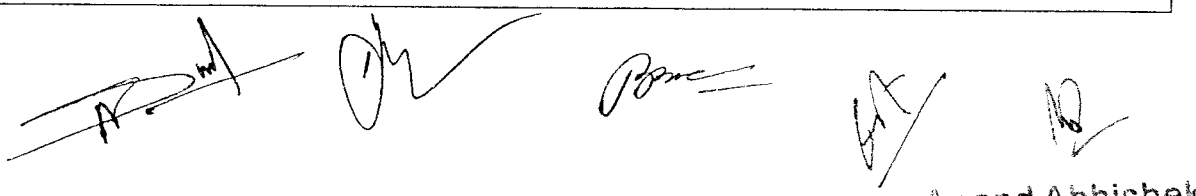
For BCA students	For students other than BCA
<ol style="list-style-type: none"> <li>1. Mathematics</li> <li>2. Statistics</li> <li>3. Economics</li> <li>4. Business Economics</li> <li>5. Any other course from discipline/subject other than Computer application approved by BOCS and Academic Council</li> </ol>	<ol style="list-style-type: none"> <li>1. Cyber Security</li> <li>2. Mobile Application Development</li> <li>3. Data Science Concepts</li> <li>4. Content Management Systems</li> <li>5. Internet of Things</li> <li>6. Content Management Systems</li> <li>7. Search Engine Optimization</li> <li>8. Web Frameworks</li> </ol>

**Table 4: Basket of Ability/ Skill Enhancement Courses (SEC-1 & SEC-2)**

<ul style="list-style-type: none"> <li>• Food Processing Technology</li> <li>• Mushroom Culture</li> <li>• Environmental Law</li> <li>• Financial Risk Management</li> <li>• Solid Waste Management</li> <li>• Tourism &amp; Hospitality Management</li> <li>• Life Skill &amp; Skill Development</li> <li>• Yoga Studies</li> <li>• Weather Forecasting</li> <li>• Any other course approved by BOCS and Academic Council</li> <li>• UG Courses offered by SWAYAM/MOOC related to Skill enhancement and duly approved by the academic Council.</li> </ul>
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**Table 5: Basket of Discipline Specific Elective (DSE)**

<ul style="list-style-type: none"> <li>• Programming in MATLAB</li> <li>• Arduino Sensors</li> <li>• Microprocessor</li> <li>• Information Security</li> <li>• Modelling and Simulation</li> <li>• Operational Research</li> <li>• Combinatorial Optimization</li> <li>• Numerical Methods</li> <li>• Design Image Processing</li> <li>• UG Courses offered by SWAYAM/MOOC related to <b>Computer Application</b> and not studied as core course/paper and duly approved by the academic Council.</li> </ul>
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### 3. Evaluation of Performance Under C.B.C.S.

3.1 The performance of a student in each course /paper will be assessed on the basis of a Continuous Internal Assessment (CIA) and the End Semester Examination (ESE).

3.2 The University Examination of each course in all semesters shall have two components:

- i. Continuous Internal Assessment (CIA) of CC, GE and DSE containing 30 marks
- ii. Continuous Internal Assessment (CIA) of AECC and SEC containing 50 marks
- iii. End Semester Examination (ESE) of CC, GE and DSE containing 70 marks.
- iv. End Semester Examination (ESE) of AECC and SEC containing 50 marks.

3.1 The components of CIA shall be:

(a)	*Two Mid-Semester Written Tests of one-hour duration each (2x7.5)	-	15 marks
(b)	Seminar/Quiz/ Assignments	-	10 marks
(c)	Regularity, Punctuality and Conduct	-	05 marks
<b>Total</b>		-	<b>30 marks</b>

\*Third mid-semester written test may also be conducted in case of natural calamity/other unavoidable causes. But in that case, only the best two marks will be considered.

The components of CIA of AECC-1, AECC-2 and AEC-1/SEC-1 shall be :

(a)	One Mid-Semester Written Test of one-hour duration	-	10 marks
(b)	Seminar/Quiz	-	10 marks
(c)	Assignments	-	15 marks
(d)	Report on above mentioned papers-		15 marks

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**Total - 50 marks**

3.2 The CIA component of the Examination shall be conducted in the Department under the concerned teacher of the course/paper and will be responsible for the submission of CIA after evaluation to the Head of the Department.

3.3 Only the End Semester Examination (ESE) of each semester shall be conducted by the University. The ESE of theory courses/papers shall be a written examination of 3 hours duration.

3.4 The fieldwork/project dissertation evaluation will be based on CIA and an end- semester examination wherever applicable.

3.5 All such examinations shall be as per the provisions of the Examination Board and Moderation Board of the University.

**Officer-cum-Incharge**  
Officer on Special Duty (Dr.)

#### 4. Examinations

- 4.1 The End-Semester Examination will be conducted by the University. The question paper of CC, GE and DSE shall consist of three parts-

##### Part - A

Ten objective type Questions  $10 \times 2 = 20$  marks

##### Part - B

Five Short Answer Questions  $4 \times 5 = 20$  marks (Four to be answered)

##### Part - C

Five long answer Questions (three to be answered)  $3 \times 10 = 30$  marks

The question paper of AECC and AEC/SEC shall consist of three parts-

##### Part - A

Ten objective type Questions  $10 \times 1 = 10$  marks

##### Part - B

Five Short Answer Questions  $4 \times 4 = 16$  marks (Four to be answered)

##### Part - C

Five long answer Questions (three to be answered)  $3 \times 8 = 24$  marks

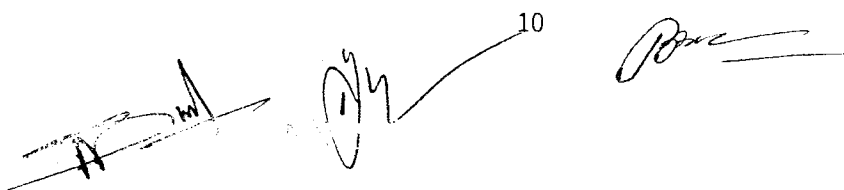
- 4.2 The examination of the I, III and V semester shall be generally held in November-December, and that of II and IV and VI Semester shall be held in May- June.

- 4.3 Paper Setting and evaluation: For ESE, the paper setting and evaluation will be done by concerned subject teachers.

#### 5. Passing of Examinations and Promotion Rules:

- 5.1 There shall be no supplementary examination in any of the courses/papers in any semester (I, II, III, IV, V and VI).
- 5.2 The candidates who have been admitted to the First Semester of a three-year undergraduate Programme in a session can be placed in the following categories on the basis of their attendance and CIA in the Semester.
- Those who have cleared the CIA and attended the required minimum percentage (75%) of attendance shall appear in the ESE.
  - Those who have not attended the required minimum percentage of attendance (75%) and not cleared CIA shall in no case be permitted to appear in the End Semester Examination.

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5.3 After appearing at the Semester Examination, the candidates can be placed in the following categories in the context of declaration of the results of the Semester Examination:

- i. To be declared passed in End Semester Examination in any paper/course, a candidate must secure at least a 'P' grade as per Table-7 in each paper/course separately in CIA and ESE.
- ii. A candidate may be promoted to next semester based on the following criteria as given in Table-6.

**Table 6: Promotion Criteria**

S. No	Semester	Conditions to be fulfilled for Promotion
1	From Semester-I to Semester-II	Attended all courses in Semester-I as a regular student and sent up** for the Semester-I examination.
2	From Semester-II to Semester-III	Attended all courses in Semester-I and Semester-II as a regular student. The candidate must earn at least 28 credits of Semester-I and II taken together in CC, GE and AECC.
3	From Semester-III to Semester-IV	Attended all courses in Semester-III as a regular student and sent up** for the Semester-III examination.
4	From Semester-IV to Semester-V	Attended all courses in Semester-IV as a regular student and sent up** for the Semester-IV examination. The candidate must earn at least 70 credits of Semester-I, II, III and IV taken together in CC, AECC, GE and SEC.
5	From Semester-V to Semester-VI	Attended all courses in Semester-V as a regular student and sent up** for the Semester-V examination. The candidate must earn 116 credits taken together in CC, DSE, AECC, GE and SEC.

\*\*Sent up for End Semester Examination here refers to those candidates who have a minimum of 75% attendance in each course/paper separately and cleared the CIA of respective course/paper conducted by the Department.

- iii. Candidates shall have to clear their backlog course/paper (s) in the subsequent end semester examination of that semester whenever it is available.
- iv. The Final result will be published only after he/she has cleared all 140 credits.
- v. The final result of the Bachelor of Computer Application shall be published on the basis of the candidate's performance in all courses spread over six semesters (Table-2).

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- vi. Since it is a continuous evaluation programme, a student shall be awarded Semester Grade Points (SGPA) at the end of the first semester Examination, and in the subsequent semesters till the fifth semester, and finally, in the sixth Semester the result will be awarded based on CGPA. No grade points will be awarded if there is any backlog present.
- vii. A student has to score a minimum grade **P** in his/her CIA. Failing to secure minimum marks, he/she shall have to repeat the CIA along with the students of the same semester of the next academic session.
- viii. The promoted candidate/candidates will not be awarded any SGPA/CGPA till he/she clears all the backlogs.
- ix. A promoted candidate, if he/she has passed in CIA but fails in ESE, he/she shall retain his/her CIA score and will reappear in the ESE only of the semester whenever available.
- x. Students undertaking any UG course from SWAYAM as SEC or DSE shall be eligible for credit transfer if he/she gets a certificate for successful completion from SWAYAM.
- xi. The candidate must clear the programme within maximum of five years. Academic Council may give one additional year of relaxation in case of exceptional circumstances.

**Note- Special Provision:**

In case of serious health problems and other strictly unavoidable circumstances, relaxation in required attendance might be condoned up to a maximum 15%, and in no case, a leaning will be entitled to avail condonation beyond.


**6. Improvement of Result:**


If a candidate clears Semesters I, II, III, IV and V ESE, he/she may apply for the improvement of his/her result in a maximum of two courses/papers of the entire Programme. He/she can avail this facility only in theory papers. The better of the two results will be treated as the final result of candidates in those papers.

**10. Declaration of Result:**

The Teacher/Examination Department shall use the following grading system:  
Results in the form of grade points consequent upon evaluation will be awarded in the following two manners-

- I. At the end of each semester which will be titled as Semester Grade Point Average (SGPA).




  
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11. At the end of the programme, which will be titled Cumulative Grade Point Average (CGPA). The explanations for the above manner of publishing results in the form of Grade points as per Table-7.

The grading system stated below shall be used at the time of preparation of the result of the candidates who appeared at the examination

**Table 7: Grading system**

S.No	Letter Grade	% Range	Numerical Letter Grade	Description of Grade
1	O	≥ 90-100	10	Outstanding
2	A <sup>+</sup>	≥ 80 < 90	9	Excellent
3	A	≥ 70 < 80	8	Very Good
4	B <sup>+</sup>	≥ 60 < 70	7	Good
5	B	≥ 55 < 60	6	Above Average
6	C	≥ 50 < 55	5	Average
7	P	≥ 45 < 50	4	Pass
8	F	< 45	0	Fail
9	Ab	0	0	Absent

- There shall be a Semester Grade Point Average (SGPA) for each semester based on the Grade obtained in that Semester. The SGPA for every Semester is calculated as:-

$$SGPA = \frac{\sum_{i=1}^n m_i o_i}{\sum_{i=1}^n o_i}$$

n – number of courses in a said semester

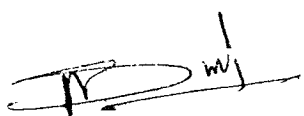
m<sub>i</sub>- the numerical value of grade obtained in the said semester

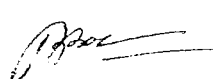
o<sub>i</sub>- number of credits for the said semester

The calculations of SGPA and CGPA is illustrated below as an example:

**Table-8: SGPA and CGPA calculation**

Course	Credit m <sub>i</sub>	Grade Letter	Grade Point o <sub>i</sub>	Credit Point (Credit X Grade)	SGPA(Credit Point/Credit)
<b>Semester-I</b>					<b>6.9 (138/20)</b>
CC-1(Th)	04	A	8	32	
CC-1(P)	02	A	8	16	
CC-2(Th)	04	B <sup>+</sup>	7	28	
CC-2(P)	02	B <sup>+</sup>	7	14	
AECC-1	02	B	6	12	
GE-1	06	B	6	36	
<b>Total</b>	<b>20</b>			<b>138</b>	






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<b>Semester-II</b>					<b>6.7 (134/20)</b>
CC-3(Th)	04	B	6	24	
CC-3(P)	02	B	6	12	
CC-4	06	C	5	30	
AECC -2	02	B+	7	14	
GE-2	06	A+	9	54	
<b>Total</b>	<b>20</b>			<b>134</b>	
<b>Semester-III</b>					<b>9.15 (238/26)</b>
CC-5(Th)	04	A+	9	36	
CC-5(P)	02	A+	9	18	
CC-6(Th)	04	O	10	40	
CC-6(P)	02	O	10	20	
CC-7	06	A	8	48	
SEC-1	02	A	8	16	
GE-3	06	O	10	60	
<b>Total</b>	<b>26</b>			<b>238</b>	
<b>Semester-IV</b>					<b>7.38 (192/26)</b>
CC-8	06	B	6	36	
CC-9(Th)	04	A+	9	36	
CC-9(P)	02	A+	9	18	
CC-10(Th)	04	B	6	24	
CC-10(P)	02	B	6	12	
SEC-2	02	A+	9	18	
GE-4	06	A	8	48	
<b>Total</b>	<b>26</b>			<b>192</b>	
<b>Semester-V</b>					<b>7.75 (186/24)</b>
CC-11(Th)	04	B	6	24	
CC-11(P)	02	B	6	12	
CC-12	06	B+	7	42	
DSE-1(Th)	04	O	10	40	
DSE-1(P)	02	O	10	20	
DSE-2(Th)	04	A	8	32	
DSE-2(P)	02	A	8	16	
<b>Total</b>	<b>24</b>			<b>186</b>	
<b>Semester-VI</b>					<b>8.0 (192/24)</b>
CC-13(Th)	04	A+	9	36	
CC-13(P)	02	A+	9	18	
CC-14(Th)	04	A	8	32	
CC-14(P)	02	A	8	16	
DSE-3(Th)	04	B+	7	28	
DSE-3(P)	02	B+	7	14	
DSE-4	06	A	8	48	
<b>Total</b>	<b>24</b>			<b>192</b>	
<b>Grand Total</b>	<b>140</b>			<b>1080</b>	<b>CGPA 7.71 (1080/140)</b>

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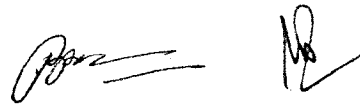
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Semester 1	Semester 2	Semester 3	Semester 4	Semester 5	Semester 6
Credit: 20; SGPA: 6.9	Credit: 20; SGPA: 6.7	Credit: 26; SGPA: 9.15	Credit: 26; SGPA: 7.38	Credit: 24; SGPA: 7.75	Credit: 24; SGPA: 8.0
<b>CGPA</b>	$(20 \times 6.9 + 20 \times 6.7 + 26 \times 9.15 + 26 \times 7.38 + 24 \times 7.75 + 24 \times 8.0) / 140 = 7.71$				

- The award sheet of the students will show the grades obtained in all courses offered in each semester, the SGPA/CGPA and the promotion status.
- The student shall have to obtain a minimum CGPA = 4.5 for the award of Bachelor of Computer Application Degree.
- If a candidate got CGPA less than 4.5 but earned required credits and pass in all papers/courses then 0.5 will be added in actual CGPA obtained but total CGPA should not exceed 4.5.
- The following formula shall be used to find percentage equivalent to CGPA-  

$$\% \text{ of Marks} = (\text{CGPA}) \times 10$$





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