Academic Ordinance, Rules & Regulations

for

Bachelor of Computer Applications (BCA) Programme

(Amended with CBCS as per UGC Guideline

&

(Approved by the Academic Council in the meeting held on 25 September 2021)

IFTM UNIVERSITY

Director
School of Computer Science & Applications
IFTM University, Moradabad

Registrar
IFTM University
Moradabad.

REGULATIONS

1. Short Title and Commencement

These regulations shall be called as "The Regulations for the three year (Six Semester) Bachelor of Computer Applications (BCA) Degree Program (CBCS) of the IFTM University, Moradabad", latest revised from the Academic Year 2021-22. The regulations framed are subject to modifications from time to time by IFTM University, Moradabad.

2. Minimum qualification for admission

2.1 The Candidate who has passed 10+2 or Equivalent with minimum 45% (40% for SC/ST) in any discipline from recognized board with Mathematics at 10th level.

2.2 Admission will be based on academic record.

2.3 Admission to BCA 1st Semester will be made as per the rules presented by Academic Council of the IFTM University, Moradabad.

2.4 Admission to BCA course cannot be claimed by any candidate as a matter of right. The admission committee of the University shall have power to refuse, reject or cancel any admission it possesses sufficient reason to do so.

2.5 Foreign National candidates, who apply through Ministry of Human Resource Development, Government of India, are eligible to apply provided that they possess the same minimum qualification.

3. Duration

3.1 The maximum time allowed for completing the BCA course shall be 6 (Six) years. If a candidate at any stage of his/her study is found unable to complete it within the said time, he/she shall not be allowed to continue the studies further.

3.2 Each semester shall consist of not less than 90 working days. The odd semesters shall be conducted from the month of June/July to November/December and the even semesters shall be conducted from December/January to May/June in every calendar year.

4. Medium of instruction and examinations

Medium of instruction and examination shall be in English.

5. Curriculum

5.1 The 3 year curriculum has been divided into 6 semesters. Semester 1st to 6th shall include lectures, tutorials, practical, seminars and project works seminars as defined in the scheme of instruction and examination issued by the University from time to time.

5.2 The curriculum will be also including such other curricular, cocurricular and extracurricular activities as may be prescribed by the University from time to time.

6. Attendance and progress

6.1 The attendance of student shall be reckoned from the date of his /her registration in the class.

6.2 Each student is normally required to attend all the lectures, tutorials and lab classes in every subject, also the curricular and co-curricular activities. However, for each subject a minimum attendance of 75% will be necessary. The Dean/Director of the concerned faculty may condone the absence, on medical reasons, further, up to a maximum 15% limit.

6.3 A student, who fails to achieve the prescribed minimum attendance as per the provisions of article 6.2 above, shall not be allowed to appear at the Even Semester Examination and, shall be deemed to have been detained. The list of students to be detained shall be forwarded by the Deans/Director/HOD's to V.C. for necessary action. However under very special circumstances, the Deans/Director/HOD's of the concerned faculty will review and forward those genuine cases which however fall below reasonable and prescribed attendance level with their recommendation for reconsideration through Deans/Director/HOD's to V.C. for a final decision.

7. Program/Course credit structure

As per the philosophy of Credit Based Semester System, certain quantum of academic work viz. theory classes, practical classes, project report, internship etc. are measured in terms of credits. On satisfactory completion of the courses, a candidate earns credits. The amount of credit associated with a course is dependent upon the number of hours of instruction per week in that course. Similarly, the credit associated with any of the other academic, co/extra-curricular activities is dependent upon the quantum of work expected to be put in for each of these activities per week.

7A. Credits and Grade System

(a) All programmes shall have credits associated with them as per their Lecture/Tutorial/Practical (LTP) structure and shall be determined as follows:

- One lecture hour per week per semester shall be assigned one credit.
- One practical hour per week shall be assigned half credit.

However, the credits associated with every programmes will be a whole number, i.e., wherever the sum comes out to be in half credit on calculation following the aforesaid process, the half shall be rounded to the next whole number.

(b) The letter grades based upon the overall marks obtained in a subject will be as follows:

S.No.	Marks	Letter Grade	Grade Point
1.	>=90	A+	10
2.	80-89	A	9
3.	70-79	B+	8
4.	60-69	B	7
5.	50-59	C+	6
6.	40-49	C	5
7.	35-39	D	4
8.	30-34	E	2
9.	<30	F	0

'E' & 'F' Grade will be treated as Carry Over Paper.

In addition to the above grades, there shall be two more letter grades 'I' and 'AB' which shall stand for Incomplete and Absent Grades, respectively.

(c) Semester Grade Point Average (SGPA)

The SGPA is a weighted average of the grade points earned by a student in all the papers credited and described his/her academic performance in a semester. If the grade points associated with the letter grades awarded to a student are g_1, g_2, g_3, ... g_k, etc. and the corresponding credits are c_1, c_2, c_3, ... c_k, the SGPA is given by :

$$SGPA = \frac{c_1 g_1 + c_2 g_2 + c_3 g_3 + \ldots\ldots\ldots c_k g_k}{c_1 + c_2 + c_3 + \ldots\ldots\ldots c_k}$$

Where, **k** is the number of papers for which the candidate remains registered during the semester.

(d) Cumulative Grade Point Average (CGPA)

The Cumulative Grade Point Average (CGPA) indicates the overall academic performance of a student in all the papers registered in that particular academic year. It is computed in the same manner as the SGPA, considering all the papers (say, n), and is given by:

$$CGPA = \frac{\sum_{i=1}^{n} c_1 g_1}{\sum_{i=1}^{n} c_1}$$

(e) Final CGPA

It is the weighted average of the CGPA of all years of study.

(f) Percentage equivalence of CGPA/Final CGPA

The conversion of CGPA/Final CGPA to exact percentage of marks does not have perfect rationale. However, its equivalent at best can be arrived at by multiplying by 10.00.

7B. Change of Grade already awarded

Letter Grade 'E' will be changed into Letter Grade 'D' up to a maximum of 03 papers at the time of promotion to the next academic year provided he/she can be declared to have passed the academic year without any carry over paper, by changing the Grade.

8. Academic work
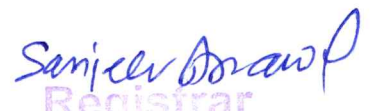
A regular record of attendance both in Theory and Practical shall be maintained by the teaching staff of respective courses.

9. Course of study

The course of study for B C A shall include Semester-Wise Theory & Sessional. The number of hours to be devoted to each theory, tutorial and practical course in any semester shall not be less than 40 sessions.

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BCA Programme Structure
I/II/III/IV Semesters

	Courses	No. of Courses L/P	Instruction Hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Group 1	5 Computer Application Courses	3T	3 x 4	3 x 4	3 x 30	3 x 70	3 x 100	3 x 4=12
		2P	2 x 4	2 x 3	2 x 30	2 x 70	2 x 100	2 x2 =4
Group 2	One course from 2 Electives	1T	1 x 4	1 x 3	1 x 30	1 x 70	1 x 100	1*4 =4
Group 3	1 Languages	1T	1 x 4	1 x 3	1 x 30	1 x 70	1 x 100	1 x 4 =4
	Elective Foundation	1L	1 x 2	1 x 3	1 x 30	1 x 70	1 x100	1*1 =1
Group 4	EC & CC	1T	1 x 2	1 x 2	1 x 50	--	1 x50	1*1=1
							Semester Credit Total	26

V Semester

	Courses	No. of Courses L/P	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Group 1	9 Computer Application Courses	6T	6 x 4	6 x 3	6 x 30	6 x 70	6 x 100	6 x 4=24
		2P	2 x 2	2 x 3	2 x 30	2 x 70	2 x 100	2 x 2 = 4
		1P	1 x 2	1 X 3	1 x 30	1 x 70	1 x 100	1 X 1 = 1
							Semester Credit Total	29

VI Semester

	Courses	No. of Courses L/P	Instruction on hrs/ week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Group 1	4 Computer Application courses	4 (T/P)	4x4	4x3	4x30	4x70	4x100	4x4=16
	Project work Dissertation		20		100	Project Report : 300 Presentation & VIVA :100	500	10
						Semester Credit Total		26
Grand Total Credit for three year Degree Programme : 159								

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BCA I SEMESTER

Group	Course Code	Course	Course Type	Periods (L-T-P)	Marks & Credits			
					IA	Exam	Total	Credits
I	BCACC-111	Fundamentals of Computer Science	CC	3-1-0	30	70	100	4
	BCACC-112	Problem Solving using C	CC	3-1-0	30	70	100	4
	BCACC-113	Computer Organization	CC	3-1-0	30	70	100	4
	BCAPL-114	Computer Organization Lab	Lab	0-0-4	30	70	100	2
	BCAPL-115	C Programming Lab	Lab	0-0-4	30	70	100	2
II	BCADS-116	E1 : Internet Basics & HTML **OR**	DSE (Choose any One)	3-1-0	30	70	100	4
	BCADS-117	E2: Algorithm & Logic Development						
III	EHU-101	HVPE (Human Values & Professional Ethics) **OR**	GE	3-1-0	30	70	100	4
	BCAGE-102	Mathematics-I **OR**						
	TPSD-101	Professional skill Development-I						
	BCAPL-101	*Elective Foundation* Office Automation Lab	Lab	0-0-2	30	70	100	1
IV		EC & CC			50	-	50	1
		Total		15-5-10	290	560	850	26

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BCA II SEMESTER

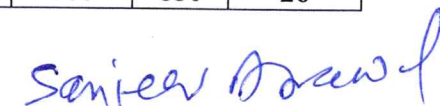| Group	Course Code	Course	Course Type	Periods (L-T-P)	IA	Exam	Total	Credits
					Marks & Credits			
I	BCACC-211	Mathematics-II	CC	3-1-0	30	70	100	4
	BCACC-212	Object Oriented Programming usingC++	CC	3-1-0	30	70	100	4
	BCACC-213	Data Structure using C/C++	CC	3-1-0	30	70	100	4
	BCAPL-214	C++ Lab	Lab	0-0-4	30	70	100	2
	BCAPL-215	Data Structure Lab	Lab	0-0-4	30	70	100	2
II	BCADS-216 BCADS-217 BCADS-218	E1 : Internet of Things E2: Big Data Analytics E3: Artificial Intelligence	DSE (Choose any One)	3-1-0	30	70	100	4
III	BCAGE-201 BCAGE-202 BCAGE-203	Environmental Science OR Organizational Behavior OR Business Data Processing	GE	3-1-0	30	70	100	4
	BCAPL-201	*Elective Foundation* Business Data Processing Lab	Lab	0-0-2	30	70	100	1
IV		EC &CC			50	-	50	1
		Total		**15-5-10**	**290**	**560**	**850**	**26**

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BCA III SEMESTER

Group	Course Code	Course	Course Type	Periods (L-T-P)	Marks & Credits			
					IA	Exam	Total	Credits
I	BCACC-311	Operating Systems	CC	3-1-0	30	70	100	4
	BCACC-312	Database Management System	CC	3-1-0	30	70	100	4
	BCACC-313	.NET Programming Using C#	CC	3-1-0	30	70	100	4
	BCAPL314	DBMS Lab	Lab	0-0-4	30	70	100	2
	BCAPL315	.Net Programming Lab	Lab	0-0-4	30	70	100	2
II	BCADS-316	E1 : Hardware & PC Maintenance	DSE (Choose any One)	3-1-0	30	70	100	4
	BCADS-317	E2 : Desktop Publishing						
III	BCAGE-301	Entrepreneurship	GE	3-1-0	30	70	100	4
	BCAGE-302	OR Disaster Management						
	BCAGE-303	OR Discrete Mathematics						
	BCAPL-301	*Elective Foundation* Desktop Publishing Lab	Lab	0-0-2	30	70	100	1
IV		EC &CC			50	-	50	1
		Total		15-5-10	290	560	850	26

BCA IV SEMESTER

Group	CourseCode	Course	Course Type	Periods (L-T-P)	Marks & Credits			
					IA	Exam	Total	Credits
I	BCACC-411	Computer Graphics and Animation	CC	3-1-0	30	70	100	4
	BCACC-412	Java Programming	CC	3-1-0	30	70	100	4
	BCACC-413 BCACC-414 BCACC-415	E1: Data Mining E2: Computer Oriented Numerical Analysis E3: Business Statistics & Mathematics	CC	3-1-0	30	70	100	4
	BCAPL-416	Computer Graphics and Animation Lab	Lab	0-0-4	30	70	100	2
	BCAPL-417	Java Programming Lab	Lab	0-0-4	30	70	100	2
II	BCADS-418 BCADS-419	E1 : Fundamentals of ICT E2: E-Commerce	DSE (Choose any One)	3-1-0	30	70	100	4
III	BCAGE-401 BCAGE-402 BCAGE-403	Analytical Skills OR Information Security & Cyber Law OR System Analysis & Design	GE	3-1-0	30	70	100	4
	BCAPL-401	Elective Foundation ICT based Lab	Lab	0-0-2	30	70	100	1
IV		EC &CC			50	-	50	1
		Total		15-5-10	290	560	850	26

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BCA V SEMESTER

Group	Course Code	Course Particulars	Course Type	Periods (L-T-P)	Marks & Credits			
					IA	Exam	Total	Credits
I	BCACC-511	Software Engineering	CC	3-1-0	30	70	100	4
	BCACC-512	Data Communication & Networks	CC	3-1-0	30	70	100	4
	BCACC-513	Management Information system	CC	3-1-0	30	70	100	4
	BCACC-514	Web Technology	CC	3-1-0	30	70	100	4
	BCACC-515	Python Programming	CC	3-1-0	30	70	100	4
	BCADS-516 BCADS-517	E2: Android Application Development E3: Machine Learning	DSE (Choose any One)	3-1-0	30	70	100	4
	BCAPL-518	Mini Project based on 514	Project	0-0-4	30	70	100	2
	BCAPL-519	Python Programming Lab	Lab	0-0-4	30	70	100	2
	BCAPL-501 BCAPL-502	E2: AAD Lab E3: ML Lab	Lab	0-0-2	30	70	100	1
		Total		**18-6-10**	**270**	**630**	**900**	**29**

BCA VI SEMESTER

Group	Course Code	Course Particulars	Course Type	Periods (L-T-P)	Marks & Credits			
					IA	Exam	Total	Credits
I	BCACC-611	E-Commerce	CC	3-1-0	30	70	100	4
	BCACC-612	Client Server Computing	CC	3-1-0	30	70	100	4
	BCACC-613	Programming in PHP	CC	3-1-0	30	70	100	4
	BCACC-614 BCACC-615 BCACC-616	E1: Cloud Computing E2: Enterprise Resource Planning E3: Digital Image Processing	CC (Choose any One)	3-1-0	30	70	100	4
	BCAPL-601	Project Work	Project	0-0-20	100	Reports -300 Presentation and Viva - 100 Total: 400	500	10
		Total		12-4-20	220	680	900	26

Grand Total Credit for three years BCA Degree Programme: 159

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Co-and Extra – Curricular Activities (CC& EC*)

A student shall opt for any one of the following activities in the first four semesters offered in the college

- N.S.S / N.C.C./Rotary Activities / Rovers and Rangers
- Sports and Games / Activities related to Yoga
- A Small project work concerning the achievements of Indian in different fields
- Evolution of study groups/seminar circles on Indian thoughts and ideas
- Interaction with local communities in their neighborhood and learn about and from them
- Exploring different aspects of Indian civilizations
- Other activities such as Cultural Activities as prescribed by the University.

Evaluation of Co-and Extra Curricular Activities is as per the procedure evolved by the University from time to time.

*The Specialization groups offered by the school may be subject to change as per the requirement of the program and availability of the resources.

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10. Examinations/Assessments

10A. Internal/ Sessional Examination

(a) The minimum Grade required to pass in each Theory & Practical paper is 'GRADE D'.

(b) A candidate, in order to pass must satisfy the requirement of Minimum CGPA of 4.50 in a particular academic year inclusive of both semesters of that academic year subject to conditions of clause 10D.

(c) In case of audit/qualifying paper the minimum Grade required to pass is Grade D. However, the Grade obtained in audit paper shall not be included in SGPA.

10B. End-Semester Examination

There will be two End Semester Examinations in all theory and project subjects viz. Odd (I, III) Semester Examination and Even (II, IV) Semester Examination in an academic year.

10C. Carry Forward of Marks

In case, if a student gets the back in a course/paper, the sessional marks of the subject concerned will carried forward in the total of marks when he re-appears for the examination of the course in which he has got the back.

10D. Heads of Passing

(a) The minimum passing marks in each theory subject (including Internal/ Sessional marks) will be 35%.

(b) The minimum passing marks in each comprehensive viva/project will be 50 %.

(c) A student , in order to pass must satisfy the following:

Minimum 45% marks in aggregate of a particular academic year inclusive of both semesters of that academic year subject to the conditions of the clause 7B.

10E. Carry Over System

Maximum number of carry over papers (Theory/viva/project) permissible for promotion to next year will be 06.

10F. Promotion

(a) A candidate satisfying all the requirements under clause 10A shall be promoted to the next academic year of study.

(b) A candidate shall be eligible for provisional promotion with carryover (PCP status) to the next

academic year of study provided he/she fails to satisfy the requirements of clause 10A(a) in not more than permissible carry over paper as mentioned in clause 10D.

(c) If a candidate satisfies the requirement of clause 10A(a) but fails to satisfy the requirement of 10A(b) he/she shall be eligible for provisional promotion with carryover (PCP-A {aggregate} status). He/she may choose up to a maximum of any 04 theory papers of that particular academic year as per his/her choice to pass the examination of that.

10G.   Ex-studentship

A candidate opting for ex-studentship shall be required to appear in all the theory/practical/viva papers in the end semester examinations of both semesters/ annual examination of the same academic year However, the sessional marks of theory & practical both shall remain the same as those secured earlier.

11. Evaluation of Performance

(a) **Programmes:** Evaluation of performance of the students in a programme shall be a continuous process based on their performance in the class test, quizzes, assignments and the end semester examinations.

Theory papers in semester system (Maximum Marks: 100)

The evaluation will be done through two class test and one end semester examination.

This will be in addition to quizzes, assignments, attendance, etc. Each class test will carry a weightage of 10 marks, and the end semester examination will carry a weightage of 70 marks. The remaining 10 marks will be awarded on the basis of attendance and performance in quizzes and assignments.

(b) **Summer Training, Project Report, Seminar etc.**

Industrial/Summer Training, Project Report, Seminar, and other learning oriented activities shall have associated maximum marks and credits, as stated in the syllabus.

12. Award of Division

(a) The division shall be awarded on the basis of final year result.

(b) If a student passes all examinations and secure minimum Final CGPA 4.50 to 5.99, he/she shall be eligible for the award of SECOND DIVISION.

(c) If a student passes all examinations and secure minimum Final CGPA 6.00 to 7.49, he/she shall be eligible for the award of FIRST DIVISION.

(d) If a student passes all examinations in first attempt without change of Grade and secures minimum Final CGPA 7.50 & above, he/she shall be eligible for the award of FIRST DIVISION WITH HONOURS.

13. Scrutiny and Re-evaluation

(a) Scrutiny shall be allowed in only theory papers, in which Re-totalling of the marks awarded will be done and only unchecked answers (if any) will be evaluated.

(b) Re-evaluation of theory/practical papers is not permitted.

14. Unfair Means

Cases of unfair means shall be dealt as per the rules of the University.

15. Result

(a) The result of a candidate shall be declared on the basis of the performance of both semesters of the same academic year.

(b) Result of the final year shall be declared on the basis of working out Final CGPA which is the weighted average of CGPA of all years of the study.

16. Improvement

There shall be no provision of Improvement examination in all the courses running in the University.
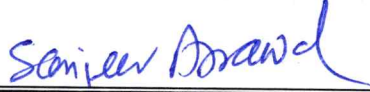
17. Grade Card

(a) A copy of the Grade Card shall be issued to each student at the end of each academic year. The duplicate copy, if required can be obtained on payment of prescribed fee.

(b) The Grade Report Card of a student may be withheld if he/she has not paid his/her dues or if there is a case of indiscipline pending against him/her or for any other such reasons.

18. Re-Admission

A candidate may be allowed for re-admission provided he/she satisfies one of the following conditions:

(a) A candidate is declared fail.

(b) A candidate promoted with carry over papers and opts for re-admission.

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