University of Madras

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Undergraduate Programme
in
Computer Applications

Bachelor of Computer Applications (BCA)
(With effect from the Academic Year 2020-21)

February 2020

Learning Outcome Based Curriculum Framework

Note: The Board of Studies is designed Learning Outcomes Based Curriculum Framework of Under Graduate Computer Application Programme prescribed by UGC

I Preamble

Bachelor of Computer Applications (BCA) is a 3 – Year Under Graduate Programme Spread over six semesters. The Course is designed to bridge the gap between IT industries and Academic institutes by incorporating the latest development, into the Curriculum and to give students a complete understanding within a structured framework. The Course helps the students to build-up a successful Career in Computer Science and for pursuing higher studies in Computer Science.

II Course Objectives

- Provide strong foundations in fundamentals of Computer Science and applications, inter disciplinary courses and electives for widening the domain expertise.
- Design and develop software based solutions for real world problems, serving effectively to the requirements of computer field and Society
- Attain sufficient knowledge related to computer domains, possesses technical, soft and hard skills and apply them effectively in team work
- Empower the students with competencies in creative thinking and problem solving, inter-personal communication and managerial skills.

III Graduate Attributes

- Computational Knowledge
- Problem analysis & Solving
- Design & Development of Solutions
- Modern tool usage
- Communication skills
- Innovation & Entrepreneurship
- Societal & environmental concern

IV Course Outcomes

After Completion of the course, the students are expected to

- Understand the basic principles and concepts of Computer applications and integrate the knowledge gained in Computer application domain with practical needs of the society and be an ethically and socially responsible Computer Application Professional
- Explore emerging technologies in diverse areas of Computer Application and inculcate skills for successful career, entrepreneurship and higher studies
- Ability to apply the concepts of Computer and practices via emerging technologies and Software development tools.

COURSE STRUCTURE:

COURSE CONTENT	COURSE NAME	Ins. Hrs	CREDITS	MAX. MARKS		
				Ext.	Int.	Total
	I SEMESTER					
PART I	Tamil/ Other languages – I	6	3	75	25	100
PART II	**BP2-ENG01-Communicative English I**	**3**	**3**	**50**	**50**	**100**
PART III	BCE-CSC01 - Problem Solving using Python@	6	4	75	25	100
	BCE-CSC02 - Core Practical-I - Problem Solving using Python Lab@	5	2	60	40	100
	BMA-CSA01-Allied I: Mathematics I@	6	5	75	25	100
PART IV	Basic Tamil/Advanced Tamil/NME	-	2	75	25	100
	BP4-EPSC 01-English for Physical Sciences I	**4**	**4**	**50**	**50**	**100**
	Total Credits		**23**			
	II SEMESTER					
PART I	Tamil/ Other languages – II	6	3	75	25	100
PART II	**BP2-ENG02-Communicative English II**	**3**	**3**	**50**	**50**	**100**
PART III	BSA-CSC03 - Object Oriented Programming Concepts using C ++@	6	4	75	25	100
	BSA-CSC04 - Core Practical-II - C++ programming Lab@	5	3	60	40	100
	BMA-CSA02-Allied II: Mathematics II@	6	5	75	25	100
PART IV	Basic Tamil/Advanced Tamil/Non Major Elective II	-	2	75	25	100
	BP4-EPSC02-English for Physical Sciences II	**4**	**4**	**50**	**50**	**100**
	Total Credits		**23**			
	III SEMESTER					
PART III	BCA-DSC05 - Data Structures	6	4	75	25	100
	BCA-DSC06 - Java programming	6	4	75	25	100
	BCE-CSC03 - Computer Organization@	6	4	75	25	100
	BCA-DSC08 - Core Practical-III - Data Structures using Java Lab	6	3	60	40	100
	BCA-DSA03-Allied III: Financial Accounting	6	5	75	25	100
PART IV	Soft Skill	2	3	50	50	100
	Environmental Studies	2	Examination will be held in Semester IV			
	Total Credits		**23**			
	IV SEMESTER					
PART III	BCE-CSC09 - Computer Network@	6	4	75	25	100
	BSA-CSC15 - Open Source Technologies@	6	4	75	25	100
	BCA-DSC11 - E-Commerce Technologies	6	4	75	25	100
	BSA-CSC16 - Core Practical-IV - Open Source Technologies Lab@	6	3	60	40	100
	BCA-DSA04-Allied IV: Cost and Management Accounting	6	5	75	25	100
PART IV	Soft Skill	2	3	50	50	100
	Environmental Studies	2	2	75	25	100
	Total Credits		**25**			

COURSE CONTENT	COURSE NAME	Ins. Hrs	CREDITS	MAX. MARKS		
				Ext.	Int.	Total
	V SEMESTER					
PART III	BCE-CSC14 - Software Engineering@	6	4	75	25	100
	BCE-CSC10 - Operating System@	6	4	75	25	100
	BCE-CSC11 - Relational Database Management System@	6	4	75	25	100
	BCE-CSC12 - Core Practical-V - Operating System Lab@	3	3	60	40	100
	BCE-CSC13 - Core Practical-VI - PL/SQL Lab@	3	2	60	40	100
	Elective I Choose any one from the list	5	5	75	25	100
PART IV	Value Education	2	2	75	25	100
	Total Credits		**24**			
	VI SEMESTER					
PART III	BCA-DSC18 - Web Design and Development	6	4	75	25	100
	BCA-DSC19 - Data Mining	6	4	75	25	100
	BCA-DSC20 - Mobile Application Development	6	4	75	25	100
	BCA-DSC21 - Core Practical-VII - Mobile Application Development Lab	3	3	60	40	100
	Elective II- Choose any one from the list	5	5	75	25	100
	BCE-CSC18 - Mini Project@		5	60	40	100
PART V	Extension Activities		1			
	Total Credits		**26**			
	Total credits (Core, Elective, SBS)		**143**			

*NME: Choose Any one From the Other Department

		Elective I
BCA-DSE1A	Principles of Information Security	
BSA-CSE1B	Multimedia and its Applications@	
BCA-DSE1C	Resource Management Techniques	
		Elective II
BSA-CSE2A	Data Analytics using R@	
BCE-CSE2B	IOT and its Applications@	
BCA-DSE2C	Software Project Management	

@ - Common subject to other course/s.