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Undergraduate Programme in Computer Science

Syllabus for B.Sc Computer Science (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

Syllabus for B.Sc Computer Science

(With effect from the Academic Year 2020-21)

I Preamble

Bachelor of Computer Science is a 3 – Year Under Graduate Programme spread over six semesters. The course is designed to achieve high degree of technical skills in Problem solving and application development. The course develops requisite professional skills and problem solving abilities for pursuing a successful career in software industry and forms the required basics for pursuing higher studies in Computer Science.

II Course Objectives

- Acquisition of Knowledge and understanding of system, various programming languages and tools required for effective computation based problem solving.
- Utilize emerging technological tools learn, adapt and successfully rite effective procedural coding meeting the needs of technical and societal challenges
- 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 Science and integrate the knowledge gained in Computer Science domain with practical needs of the society and be an ethically and socially responsible Computer Science Professional
- Explore emerging technologies in diverse areas of Computer Science and inculcate skills for successful career, entrepreneurship and higher studies
- Apply the concepts of Computer and practices via emerging technologies and Software development tools

COURSE STRUCTURE:

I SEMESTER							
COURSE CONTENT	COURSE NAME	Ins. Hrs	CREDITS	MAX. MARKS			
				Ext.	Int.	Total	
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	3	60	40	100	
	BMA-CSA01-Allied I: Mathematics-I@	6	5	75	25	100	
PART IV	Basic Tamil/Advanced Tamil/NME I*	-	2	75	25	100	
	BP4-EPSC01- English for Physical Science I	4	4	50	50	100	
Total Credits			24				
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	BCE-CSC03 - Computer Organization@	6	4	75	25	100	
	BCE-DSC04 - Core Practical-II - Computer Organization Lab	5	3	60	40	100	
	BMA-CSA02-Allied II: Mathematics II@	6	5	75	25	100	
PART IV	Basic Tamil/Advanced Tamil/NME-II*	-	2	75	25	100	
	BP4-EPSC02- English for Physical Science II	4	4	50	50	100	
Total Credits			23				
III SEMESTER							
PART I	Tamil/ Other languages – III	6	3	75	25	100	
PART II	BP2-ENG03-Language Through Literature- I	6	3	50	50	100	
PART III	BCE-CSC05 - Java and Data Structures@	6	4	75	25	100	
	BCE-CSC06 - Core Practical-III - Data Structures using Java Lab@	3	3	60	40	100	
	BPS-CSA01 - Allied III-Physics-I(Theory)@	6	3	75	25	100	
	BPS-CSAP1-Allied Physics – I (Practical)	3	2	Examination will be held in IV Sem.			
	(OR)						
		BST-CSA01-Allied III-Statistics I@	9	5	75	25	100
PART IV	Soft Skill	-	3	50	50	100	
	Environmental Studies	-	Examination will be held in Semester IV				
Total Credits			21				

IV SEMESTER						
PART I	Tamil/ Other languages – IV	6	3	75	25	100
PART II	BP2-ENG04- Language Through Literature - II	6	3	50	50	100
PART III	BCE-CSC07 - Web Technology@	6	4	75	25	100
	BCE-CSC08 - Core Practical-IV - Web Technology Lab@	3	3	60	40	100
	BPS-CSA02 – Allied IV- Physics-II (Theory)@	6	3	75	25	100
	BPS-CSAP1 - Allied Physics–I & II (Practicals)	3	2	60	40	100
	(OR)					
	BST-CSA02- Allied IV- Statistics II@	9	5	75	25	100
PART IV	Soft Skill	-	3	50	50	100
	Environmental Studies	-	2	75	25	100
	Total Credits		23			
V SEMESTER						
COURSE CONTENT	COURSE NAME	Ins. Hrs	CREDITS	MAX. MARKS		
				Ext.	Int.	Total
PART III	BCE-CSC09 - Computer Network@	6	4	75	25	100
	BCE-CSC10 - Operating System@	6	5	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	3	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		26			
VI SEMESTER						
PART III	BCE-CSC14 - Software Engineering@	6	4	75	25	100
	BCE-CSC15 - Introduction to Data Science@	6	5	75	25	100
	BCE-DSC16 - Introduction to Cloud Computing	6	4	75	25	100
	BCE-DSC17 - Core Practical-VII - CASE Tools and Testing Tools Lab	3	3	60	40	100
	Elective II- Choose any one from the list	5	5	75	25	100
	BCE-CSC18 - Core Practical-VIII - Mini Project@		5	60	40	100
PART V	Extension Activities		1			
	Total Credits		27			
	Total credits (Core, Elective, SBS)		143			

***NME: Choose Any one From the Other Department**

	Elective I
BCE-DSE1A	Artificial Intelligence and Expert System
BCE-DSE1B	Graphics and Visualization
BCE-DSE1C	Network Security
	Elective II
BCE-DSE2A	Mobile Computing
BCE-CSE2B	IOT and its Applications@
BCE-DSE2C	Block Chain Technology

@ - Common subject of other course/s.