SETHU INSTITUTE OF TECHNOLOGY

(An Autonomous Institution)

Pulloor , Kariapatti – Taluk, Virudhunagar dist -626115

B.TECH COMPUTER SCIENCE AND BUSINESS SYSTEMS

REGULATIONS 2019

Estd : 1995

CURRICULUM & SYLLABUS

R. A

Chairman

Board of Studies

Dr.R.AGHILA,M.E.,Ph.D.,
Professor & Head
Computer Science and Business Systems
Sethu Institute of Technology
Kariapatti-626 115.

Chairman

Academic Council

CHAIRMAN
ACADEMIC COUNCIL
Sethu Institute of Technology
Pulloor, Kariapatti - 625 115

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SYLLABUS CONTENT
(1st TO 8th SEMESTER)

(FOR THOSE STUDENTS ADMITTED FROM THE ACADEMIC YEAR 2020-2021 ONWARDS)

OVERALL COURSE STRUCTURE

Category	Total No. of Courses	Credits	Percentage
Humanities & Social Sciences	**7**	**14**	**8.13**
Basic Sciences	**6**	**20**	**11.62**
Engineering Sciences	**15**	**32.5**	**18.89**
Professional Core	**24**	**60.5**	**35.17**
Professional Elective	**6**	**18**	**10.46**
Open Electives	**4**	**12**	**6.97**
Project Work	**5**	**15**	**8.72**
Mandatory Course	**5**	**-**	**-**
TOTAL	**72**	**172**	**100**

COURSE CREDITS – SEMESTER WISE

Branch	I	II	III	IV	V	VI	VII	VIII	TOTAL
CSBS	21	21	23.5	21.5	22.5	24.5	21	17	172

Employability Courses
Skill Development Courses
Entrepreneurship Development Courses
Any two or all of the above

PROGRAMME SPECIFIC OUTCOMES	
PSO1	Apply principles of Computer Science and problem solving skills through programming techniques to solve complex real time problems. **[Programming Techniques]**
PSO2	Exhibit the knowledge of management principles and demonstrate critical-thinking and problem solving skills in Business Management. **[ManagementSkills]**

PROGRAMME OUTCOMES	
PO1	Apply the knowledge of mathematics, basic sciences, engineering fundamentals, and concepts of Computer Science and Business Systems to the solution of complex engineering problems. **[Engineering Knowledge]**
PO2	Identify, formulate, review research literature and analyze complex Computer Science and Business system problems requiring computing solutions to reach substantiated conclusions using first principles of mathematics, basic sciences and Computer Science and Business Systems. **[Problem Analysis]**
PO3	Design solutions for computer applied complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations. [Design/Development of Solutions]
PO4	Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.**[Conduct investigations of complex problems]**
PO5	Create, Select and apply appropriate techniques, resources, and modern IT tools including prediction and modeling to computing related complex engineering activities with an understanding of the limitations. **[Modern Tool Usage]**
PO6	Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional computer science and Business System practice. **[The Engineer and Society]**
PO7	Understand the impact of the professional computer science and Business System solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development. **[Environment and sustainability]**

PO8	Apply ethical principles and commit to professional ethics and responsibilitiesand norms of the computer science and Business System Practice. **[Ethics]**
PO9	Function effectively as an individual, and as a member or leader in diverse teams,and in multidisciplinary settings. **[Individual and Team Work]**
P10	Communicate effectively on complex computer science and Business system activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions. **[Communication]**
P11	Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team,to manage cost effective projects in multidisciplinary environments. **[ProjectManagement and Finance]**
P12	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. **[Life-long Learning]**

Semester I

Course Code		Course Title	L	T	P	C
THEORY						
19UGM131	MC	Induction Programme				
19UEN102	HS	Business Communication & Value Science - I	2	0	0	2
19UMA103	BS	Probability and Inferential Statistical Techniques	3	1	0	4
19UPH104	BS	Physics for Computing Science	3	0	2	4
19UEE125	ES	Principles of Electrical Engineering	3	0	0	3
19UCB106	ES	Fundamentals of Computer Science	3	0	0	3
19UCB107	ES	Fundamentals of Economics	2	0	0	2
PRACTICAL						
19UEE128	ES	Electrical Engineering Laboratory	0	0	3	1.5
19UCB109	ES	Computer Programming Laboratory	0	0	3	1.5
		TOTAL	**16**	**1**	**8**	**21**
Total No. of Credits – 21						

Semester II

Course Code		Course Title	L	T	P	C
THEORY						
19UEN202	HS	Business Communication & Value Science – II	2	0	0	2
19UMA208	BS	Linear Algebra and Numerical Techniques	3	1	0	4
19UMA209	BS	Statistical Methods	3	0	0	3
19UCY204	HS	Environmental Science	3	0	0	3
19UEC225	ES	Principles of Electronics Engineering	3	0	0	3
19UCB206	PC	Introduction to Data Structures and Algorithms	3	0	0	3
PRACTICAL						
19UEC227	ES	Electronics Engineering Laboratory	0	0	3	1.5
19UCB208	PC	Data Structures and Algorithms Laboratory	0	0	3	1.5
		TOTAL	**17**	**1**	**6**	**21**
Total No. of Credits – 21						

Semester III

Course Code		Course Title	L	T	P	C
THEORY						
19UEN301	HS	Business Communication & Value Science - III	2	0	0	2
19UMA327	BS	Discrete Mathematics and Calculus	3	1	0	4
19UCB303	ES	Computational Statistics	3	0	0	3
19UCB304	PC	Object Oriented Programming	3	0	0	3
19UCB305	PC	Operating Systems Concepts	3	0	0	3
19UCB306	PC	Computer Organization and Architecture	3	0	0	3
PRACTICAL						
19UCB307	PW	Technical Seminar	0	0	2	1
19UCB308	PC	Computational Statistics Laboratory	0	0	3	1.5
19UCB309	PC	Object Oriented Programming Laboratory	0	0	3	1.5
19UCB310	PC	Operating Systems Laboratory	0	0	3	1.5
		TOTAL	**17**	**1**	**11**	**23.5**
Total No. of Credits – 23.5						

Semester IV

Course Code		Course Title	L	T	P	C
THEORY						
19UEN401	HS	Business Communication & Value Science – IV	2	0	0	2
19UCB402	PC	Computer Networks	3	0	0	3
19UCB403	PC	Introduction to Design and Analysis of Algorithms	3	1	0	4
19UCB404	PC	Database Management Systems	3	0	0	3
19UCB405	PC	Formal Languages and Automata Theory	3	1	0	4
19UCB406	PC	Python Programming	1	0	3	2.5
PRACTICAL						
19UCB407	PC	Computer Networks Laboratory	0	0	3	1.5
19UCB408	PC	Database Management Systems Laboratory	0	0	3	1.5
MANDATORY COURSES						
19UGM431	MC	Gender Equality	1	0	0	P/F
19UGM432	MC	Biology for Engineering Applications	2	0	0	P/F
		TOTAL	**18**	**2**	**9**	**21.5**
Total No. of Credits – 21.5						

Semester V

Course Code		Course Title	L	T	P	C
THEORY						
19UCB501	PC	Compiler Design	3	0	0	3
19UCB502	PC	Software Engineering	3	0	0	3
19UCB503	ES	Fundamentals of Management	2	0	0	2
19UCB504	PC	Mobile applications Development & Services	2	0	3	3.5
	PE	Professional Elective – I	3	0	0	3
	OE	Open Elective – I	3	0	0	3
19UGS531	BS	Reasoning and Aptitude	1	0	0	1
PRACTICAL						
19UCB507	PW	Creative Thinking and Innovations	0	0	2	1
19UCB508	PC	Compiler design Laboratory	0	0	3	1.5
19UGS532	HS	Soft Skills Laboratory	0	0	3	1.5
		TOTAL	**17**	**0**	**11**	**22.5**
Total No. of Credits –22.5						

Semester VI

Course Code		Course Title	L	T	P	C
THEORY						
19UCB601	ES	Marketing Research	2	0	0	2
19UCB602	ES	Business Strategy	2	0	0	2
19UCB603	PC	Artificial Intelligence	2	0	2	3
19UCB604	PC	Information Security	2	0	2	3
	PE	Professional Elective - II	3	0	0	3
	PE	Professional Elective III	3	0	0	3
	OE	Open Elective - II	3	0	0	3
PRACTICAL						
19UCB609	PW	Product Development Project	0	0	8	4
19UGS633	HS	Interpersonal Skills Laboratory	0	0	3	1.5
MANDATORY COURSES						
19UGM632	MC	Indian Constitution	1	0	0	0
		TOTAL	**18**	**0**	**15**	**24.5**
Total No. of Credits – 24.5						

Semester VII

Course Code		Course Title	L	T	P	C
THEORY						
19UCB701	ES	Financial Management	2	0	0	2
19UCB702	ES	Financial and Cost Accounting	2	0	0	2
19UCB703	ES	Human Resource Management	2	0	0	2
19UCB704	ES	IT Project Management	2	0	0	2
19UCB705	PC	Usability Design of Software Applications	3	0	0	3
	PE	Professional Elective IV	3	0	0	3
	OE	Open Elective - III	3	0	0	3
PRACTICAL						
19UCB707	PW	Summer Internship	0	0	0	1
19UCB708	PC	Usability Design of Software Applications Laboratory	0	0	3	1.5
19UCB709	PC	IT Workshop Scilab / Matlab	0	0	3	1.5
MANDATORY COURSES						
19UGM731	MC	Professional Ethics and Human values	2	0	0	0
		TOTAL	**19**	**0**	**6**	**21**
Total No. of Credits – 21						

Semester VIII

Course Code		Course Title	L	T	P	C
THEORY						
	PE	Professional Elective V	3	0	0	3
	PE	Professional Elective VI	3	0	0	3
	OE	Open Elective – IV	3	0	0	3
PRACTICAL						
19UCB801	PW	Project Work	0	0	16	8
		TOTAL	**9**	**0**	**16**	**17**
Total No. of Credits – 17						

TOTAL CREDITS –172

PROFESSIONAL ELECTIVE COURSES

Course Code	Course Title	L	T	P	C
COMPUTER SCIENCE					
19UCB901	Introduction to IoT	3	0	0	3
19UCB902	Data Mining Techniques	3	0	0	3
19UCB903	Robotics and Embedded Systems	3	0	0	3
19UCB904	Cloud Micro Services and Application	3	0	0	3
19UCB905	Quantum Computing and Applications	3	0	0	3
19UCB906	Cognitive Science and Analytics	3	0	0	3
19UCB907	Deep Learning for Computer Vision	3	0	0	3
19UCB908	Introduction to Block chain Technology and Application	3	0	0	3
19UCB909	Introduction to Industry 4.0	3	0	0	3
19UCB910	Advanced Social, Text and Media Analytics	3	0	0	3
19UCB911	Data Science for Engineering	3	0	0	3
19UCB912	Cryptology	3	0	0	3
19UCB913	Graph Theory and Applications	3	0	0	3
19UCB914	Software Quality Management	3	0	0	3
19UCB915	Introduction to Parallel and Distributed Algorithms	3	0	0	3
19UCB916	Fault Tolerant Computing Systems	3	0	0	3
19UCB917	Introduction to Ad Hoc and Sensor Networks	3	0	0	3
19UCB918	Computer Graphics and Multimedia	3	0	0	3
19UCB919	Information Retrieval Techniques	3	0	0	3
19UCB920	Information Storage Management concepts	3	0	0	3

19UCB921	Introduction to Mobile and Pervasive computing	3	0	0	3
19UCB922	Introduction to Human Computer Interaction	3	0	0	3
19UCB923	Software Project Management	3	0	0	3
19UCB924	Augmented Reality	3	0	0	3
19UCB925	Introduction to Data Analytics	3	0	0	3
19UCB926	Java Programming	3	0	0	3
19UCB927	Speech and Natural Language Processing concepts	3	0	0	3
19UIT911	Building Enterprise Applications	3	0	0	3
19UIT912	Software Testing	3	0	0	3
BUSINESS SYSTEMS					
19UCB928	Management Accounting	3	0	0	3
19UCB929	Strategic Management	3	0	0	3
19UCB930	Business Intelligence	3	0	0	3
19UCB931	Behavioral Economics	3	0	0	3
19UCB932	Enterprise Resource Planning	3	0	0	3
19UCB933	Total Quality Management	3	0	0	3

OPEN ELECTIVES OFFERED TO OTHER PROGRAMMES

Course Code	Course Title	L	T	P	C
19UCB971	Corporate Finance	3	0	0	3
19UCB972	R Programming	3	0	0	3
19UCB973	Computational Finance and Modeling	3	0	0	3
19UCB974	Machine Learning	3	0	0	3
19UCB975	Entrepreneurship Development	3	0	0	3
19UCB976	Business Analysis and DM Modeling using R	3	0	0	3
19UCB977	Perl Programming	3	0	0	3
19UCB978	Social Network Analysis	3	0	0	3
19UCB979	Introduction to Digital Marketing	3	0	0	3

LIST OF ONE CREDIT COURSES

Course Code	Course Title	L	T	P	C
19UCB861	Web Designing	1	0	1	1
19UCB862	Big Data Computing	1	0	0	1
19UCB863	Animation Graphics	0	0	2	1
19UCB864	Soft Computing	1	0	1	1
19UCB865	Visualization using Tableau	1	0	1	1
19UCB866	Wordpress Applications	0	0	2	1
19UCB867	Multimedia Technology	1	0	1	1
19UCB868	Adobe Illustrator	0	0	2	1
19UCB869	Software Testing Tools-TestRail	1	0	1	1
19UCB870	Mongo DB Atlas Database	0	0	2	1
19UCB871	Game Development	0	0	2	1
19UCB872	Drone Technology	0	0	2	1
19UCB873	Data processing with PySpark	0	0	2	1
19UCB874	Scala	0	0	2	1
19UCB875	Data Analysis using SQL	1	0	1	1
19UCB876	Node js	1	0	1	1