



JAGADGURUKUL
UNIVERSITY

Faculty of Engineering & Technology

B. Tech.

(Computer Science & Engineering)

(2015-16)

Program Structure

B.Tech. (CSE) Course Structure (2015-16)

Semester - I

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BT 101	Engineering Physics-I	3	1	-	30	70	100	4
BT 102	Introduction to Computers Fundamental and IT*	3	-	-	30	70	100	3
BT 103	Applied Mathematics-I	3	1	-	30	70	100	4
BT 104	Introduction to Electrical & Electronic Engineering	3	-	-	30	70	100	3
BT 105	English & Communication Skills	3	-	-	30	70	100	3
BT 106	Engineering Chemistry	3	-	-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessiona	Practical	Total	Credits
BT 107	Electrical & Electronics Lab-I	-	-	2	30	20	50	1
BT 108	Engineering Physics Lab-I	-	-	2	30	20	50	1
BT 109	IT Fundamental Lab*	-	-	2	30	20	50	1
BT 110	Engineering Chemistry Lab	-	-	2	30	20	50	1
BT 111	Engineering Workshop	-	-	2	30	20	50	1
TOTAL		18	2	10	330	520	850	25

Semester - II

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BT 201	Engineering Physics-II	3	1	-	30	70	100	4
BT 202	Introduction to Computer Programming *	3	-	-	30	70	100	3
BT 203	Engineering Mechanics*	3	1	-	30	70	100	4
BT 204	Digital Electronics	3	-	-	30	70	100	3
BT 205	Applied Mathematics-II	3	-	-	30	70	100	3
BT 206	Environmental Sciences	3	-	-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
BT 207	Electrical & Electronic Lab-II	-	-	2	30	20	50	1
BT 208	Engineering Physics-II	-	-	2	30	20	50	1
BT 209	Computer Programming Lab*	-	-	2	30	20	50	1
BT 210	Engineering Drawing	-	-	2	30	20	50	1
BT 211	Communication Skill Lab*	-	-	2	30	20	50	1
TOTAL		18	2	10	330	520	850	25

Semester - III

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 301	Applied Mathematics – III	3		-	30	70	100	3
BTCS 302	Foundation of Computer Science	3	1	-	30	70	100	4
BTCS 303	Electronic Devices and Circuit	3		-	30	70	100	3
BTCS 304	Object Oriented Programming	3		-	30	70	100	3
BTCS 305	Data Structure	3	1	-	30	70	100	4
BTCS 306	Computer Graphics and Multimedia	3		-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 307	Electronic Devices and Circuit Lab		-	2	30	20	50	1
BTCS 308	Data Structure Lab		-	2	30	20	50	1
BTCS 309	Object Oriented Programming Lab		-	2	30	20	50	1
BTCS 310	Computer Graphics and Multimedia Lab		-	2	30	20	50	1
BTCS 311	GD and Soft Skills		-	2	30	20	50	1
TOTAL		18	2	10	330	520	850	25

Semester - IV

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 401	Micro Processors And Microcontrollers	3	1	-	30	70	100	4
BTCS 402	Computer Organization and Architecture	3		-	30	70	100	3
BTCS 403	Theory of Computation	3	1	-	30	70	100	4
BTCS 404	Database Management Systems	3		-	30	70	100	3
BTCS 405	Core PHP	3		-	30	70	100	3
BTCS 406	Java Programming	3		-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 407	Micro Processor Lab	-	-	2	30	20	50	1
BTCS 408	Computer Organization and Architecture Lab	-	-	2	30	20	50	1
BTCS 409	Database Management Systems Lab	-	-	2	30	20	50	1
BTCS 410	PHP Lab	-	-	2	30	20	50	1
BTCS 411	Java Programming Lab	-	-	2	30	20	50	1
TOTAL		18	2	10	330	520	850	25
<p>4-6 weeks training will be held after fourth semester, viva will be conducted in fifth sem.</p>								

Semester - V

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 501	Algorithms Design and Analysis	3	1	-	30	70	100	4
BTCS 502	Software Engineering	3		-	30	70	100	3
BTCS 503	Java 2 Enterprise Edition	3	1	-	30	70	100	4
BTCS 504	Random Variable and Stochastic Processes	3		-	30	70	100	3
BTCS 505	System Software	3		-	30	70	100	3
ELECTIVE (ANY ONE)								
BTCS 506A	Principles of Communication	3	-	-	30	70	100	3
BTCS506B	Information Theory and Coding	3	-	-	30	70	100	3
BTCS 506C	Telecommunication Networks	3	-	-	30	70	100	3
BTCS 506D	Simulation and Modelling	3	-	-	30	70	100	3
BTCS 506E	Analog and Digital Communication	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 507	Algorithms Design and Analysis Lab	-	-	2	30	20	50	1
BTCS 508	Software Engineering Lab	-	-	2	30	20	50	1
BTCS 509	Java 2 Enterprise Edition Lab	-	-	2	30	20	50	1
BTCS 510	System Software Lab	-	-	2	30	20	50	1
BTCS 511	Communication Lab	-	-	2	30	20	50	1
BTCS 512	Training Viva	-	-	0	30	20	50	2
TOTAL		18	2	10	360	540	900	27

Semester - VI

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 601	Operations Research	3	1	-	30	70	100	4
BTCS 602	Operating Systems	3		-	30	70	100	3
BTCS 603	Computer Networks	3	1	-	30	70	100	4
BTCS 604	Advanced Data structure	3	1	-	30	70	100	4
BTCS 605	Advanced Computer Architecture	3		-	30	70	100	3
Elective (any one)								
BTCS 606A	Artificial Intelligence	3	-	-	30	70	100	3
BTCS 606B	Advanced DBMS	3	-	-	30	70	100	3
BTCS 606C	Advanced PHP	3	-	-	30	70	100	3
BTCS 606D	Principles of Programming Languages	3	-	-	30	70	100	3
BTCS 606E	E-Commerce	3	-	-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 607	Operating Systems (Linux Programming and Administration) Lab	-	-	2	30	20	50	1
BTCS 608	Computer Networks Lab	-	-	2	30	20	50	1
BTCS 609	Advanced Data Structure Lab	-	-	2	30	20	50	1
BTCS 610	Advance Computer Architecture Lab	-	-	2	30	20	50	1
BTCS 611	In house workshop	-	-	0	30	20	50	2
BTCS 612	Communication for professional lab	-	-	1	30	20	50	1
TOTAL		18	3	9	360	540	900	28
4 -6 weeks training will be held after sixth semester, viva will be conducted in seventh sem.								

Semester - VIII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 801	C# and .NET Programming	3	1	-	30	70	100	4
BTCS 802	Software Testing and Quality Assurance	3		-	30	70	100	3
BTCS 803	Compiler Design	3	1	-	30	70	100	4
BTCS 804	Information Security System	3		-	30	70	100	3
ELECTIVE(any one)								
BTCS 805A	Embedded Systems	3	-	-	30	70	100	3
BTCS 805B	Data Mining and Business Intelligence	3	-	-	30	70	100	3
BTCS 805C	Natural Language Processing	3	-	-	30	70	100	3
BTCS 805D	Web Intelligence and Big Data	3	-	-	30	70	100	3
BTCS 805E	Wireless Communication & Networks	3	-	-	30	70	100	3
ELECTIVE(any one)								
BTCS 806A	Parallel Computing	3	-	-	30	70	100	3
BTCS 806B	Advanced Computer Networks	3	-	-	30	70	100	3
BTCS 806C	Distributed Systems	3	-	-	30	70	100	3
BTCS 806D	Soft Computing	3	-	-	30	70	100	3
BTCS 806E	Data Compression Techniques	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 807	C# and .NET Programming Lab			2	30	20	50	1
BTCS 808	Compiler Design Lab			2	30	20	50	1
BTCS 809	Information Security System Lab			2	30	20	50	1
BTCS 810	Summer Training / Industrial Workshop/ Certification			0	30	20	50	2
BTCS 811	Project			4	60	40	100	2
TOTAL		18	2	10	360	540	900	27
Grand Total of Credits		126	15	69	2940	4060	7000	210



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Program Structure

B.Tech. (CSE) Course Structure (2016-17)

Semester - I

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BT 101	Engineering Physics-I	3	1	-	30	70	100	4
BT 102	Introduction to Computers Fundamental and IT*	3	-	-	30	70	100	3
BT 103	Applied Mathematics-I	3	1	-	30	70	100	4
BT 104	Introduction to Electrical & Electronic Engineering	3	-	-	30	70	100	3
BT 105	English & Communication Skills	3	-	-	30	70	100	3
BT 106	Engineering Chemistry	3	-	-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessiona	Practical	Total	Credits
BT 107	Electrical & Electronics Lab-I	-	-	2	30	20	50	1
BT 108	Engineering Physics Lab-I	-	-	2	30	20	50	1
BT 109	IT Fundamental Lab*	-	-	2	30	20	50	1
BT 110	Engineering Chemistry Lab	-	-	2	30	20	50	1
BT 111	Engineering Workshop	-	-	2	30	20	50	1
TOTAL		18	2	10	330	520	850	25

Semester - II

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BT 201	Engineering Physics-II	3	1	-	30	70	100	4
BT 202	Introduction to computer Programming *	3	-	-	30	70	100	3
BT 203	Engineering Mechanics*	3	1	-	30	70	100	4
BT 204	Digital Electronics	3	-	-	30	70	100	3
BT 205	Applied Mathematics-II	3	-	-	30	70	100	3
BT 206	Environmental Sciences	3	-	-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
BT 207	Electrical & Electronic Lab-II	-	-	2	30	20	50	1
BT 208	Engineering Physics Lab-II	-	-	2	30	20	50	1
BT 209	Computer Programming Lab*	-	-	2	30	20	50	1
BT 210	Engineering Drawing	-	-	2	30	20	50	1
BT 211	Communication Skill Lab*	-	-	2	30	20	50	1
TOTAL		18	2	10	330	520	850	25

COMPUTER SCIENCE ENGINEERING

SEMESTER - III

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 301	Applied Mathematics – III	3		1	30	70	100	3
BTCS 302	Core PHP	3	1	1	30	70	100	4
BTCS 303	Electronic Devices and Circuits	3		1	30	70	100	3
BTCS 304	Object Oriented Programming	3		1	30	70	100	3
BTCS 305	Data Structure & Algorithms	3	1	1	30	70	100	4
BTCS 306	Linux and Shell Programming	3		1	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 307	Electronic Devices and Circuits Lab		1	2	30	20	50	1
BTCS 308	Data Structure & Algorithms Lab		1	2	30	20	50	1
BTCS 309	Object Oriented Programming Lab		1	2	30	20	50	1
BTCS 310	Core PHP Lab		1	2	30	20	50	1
BTCS 311	Unix Shell Programming Lab		1	2	30	20	50	1
							-	
TOTAL		18	2	10	330	520	850	25

Semester - IV

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 401	Micro Processors And Interfaces	3	1	-	30	70	100	4
BTCS 402	Discrete Mathematical Structures	3		-	30	70	100	3
BTCS 403	Statistics and Probability Theory	3	1	-	30	70	100	4
BTCS 404	Software Engineering	3		-	30	70	100	3
BTCS 405	Principles of Communication	3		-	30	70	100	3
BTCS 406	Principles of Programming Languages	3		-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 407	Micro Processor Lab	-	-	2	30	20	50	1
BTCS 408	Communication Lab	-	-	2	30	20	50	1
BTCS 409	Computer Aided Software Engineering Lab	-	-	2	30	20	50	1
BTCS 410	Business Entrepreneurship Development	-	-	2	30	20	50	1
BTCS 411	Discipline & Extra Curricular Activities	-	-	2	30	20	50	1
TOTAL		18	2	10	330	520	850	25

Semester - V

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 501	Computer Architecture	3	1	-	30	70	100	4
BTCS 502	Digital Logic Design	3	1	-	30	70	100	4
BTCS 503	Telecommunication Fundamentals	3	1	-	30	70	100	4
BTCS 504	Database Management Systems	3		-	30	70	100	3
BTCS 505	Operating Systems	3		-	30	70	100	3
ELECTIVE (ANY ONE)								
BTCS 506A	Advanced Data Structure	3	-	-	30	70	100	3
BTCS506B	Digital Signal Processing	3	-	-	30	70	100	3
BTCS 506C	Information Theory & Coding	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 507	Database Management Systems Lab	-	-	2	30	20	50	1
BTCS 508	System Design in UML Lab.	-	-	2	30	20	50	1
BTCS 509	Operating Systems Simulation Lab	-	-	2	30	20	50	1
BTCS 510	Digital Hardware Design Lab	-	-	2	30	20	50	1
BTCS 511	Discipline & Extra Curricular Activities	-	-			50	50	1
BTCS512	Seminar			2	30	20	50	1
TOTAL		18	3	10	330	570	900	27

Semester - VI

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 601	Computer Networks	3	1	-	30	70	100	4
BTCS 602	Design & Analysis of Algorithms	3		-	30	70	100	3
BTCS 603	Theory Of Computation	3	1	-	30	70	100	4
BTCS 604	Computer Graphics & Multimedia Techniques	3	1	-	30	70	100	4
BTCS 605	Embedded System Design	3	1	-	30	70	100	4
ELECTIVE (ANY ONE)								
BTCS 606A	Advance Topics in Operating Systems	3	-	-	30	70	100	3
BTCS 606B	Artificial Intelligence	3	-	-	30	70	100	3
BTCS 606C	Human Computer Interface	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 607	Java Programming Lab	-	-	2	30	20	50	1
BTCS 608	Computer Graphics & Multimedia Lab	-	-	2	30	20	50	1
BTCS 609	Design and Analysis of Algorithms Lab.	-	-	2	30	20	50	1
BTCS 610	Embedded System Design Lab.	-	-	2	30	20	50	1
BTCS 611	Humanities and Social Sciences	-	-	2	30	20	50	1
BTCS 612	Discipline & Extra Curricular Activities					50	50	1
TOTAL		18	4	10	330	570	900	28

Semester - VII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 701	Cloud Computing	3	1	-	30	70	100	4
BTCS 702	Information System Security	3		-	30	70	100	3
BTCS 703	Data Mining & Warehouse	3	1	-	30	70	100	4
BTCS 704	Computer Aided Design for VLSI	3	1	-	30	70	100	4
BTCS 705	Compiler Construction	3	-	-	30	70	100	3
ELECTIVE(ANY ONE)								
BTCS 706A	Advance Data Base Management Systems	3	-	-	30	70	100	3
BTCS 706B	Robotics	3	-	-	30	70	100	3
BTCS 706C	Data Compression Techniques	3	-	-	30	70	100	3
PRACTICALS/VIVA-VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 707	Web Development Lab			2	30	20	50	1
BTCS 708	VLSI Physical Design Lab			2	30	20	50	1
BTCS 709	Compiler Design Lab			2	30	20	50	1
BTCS 710	Project-I			2	30	20	50	1
BTCS 711	Practical Training*			2	30	20	50	1
BTCS 712	Discipline & Extra Curricular Activities					50	50	1
TOTAL		18	3	10	330	570	900	27

Semester – VIII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 801	Mobile Computing	3	1	-	30	70	100	4
BTCS 802	Digital Image Processing	3	1	-	30	70	100	4
BTCS 803	Distributed Systems	3	-	-	30	70	100	3
Elective(open) (any one)								
BTCS 804A	Hardware Testing & Fault Tolerance	3	-	-	30	70	100	3
BTCS 804B	Real Time Systems	3	-	-	30	70	100	3
BTCS 804C	Information Retrieval	3	-	-	30	70	100	3
<i>PRACTICALS/VIVA-VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTCS 805	Unix Network Programming & Simulation Lab	-	-	2	30	20	50	1
BTCS 806	FPGA Lab.	-	-	2	30	20	50	1
BTCS 807	Digital Image Processing lab	-	-	2	30	20	50	1
BTCS 808	Project-II			2	150	100	250	5
BTCS 809	Seminar			2	30	20	50	1
BTCS 810	Discipline & Extra Curricular Activities					50	50	1
TOTAL		12	2	10	390	510	900	24



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B. Tech.

(Computer Science & Engineering)

(2017-18)

Program Structure

B.Tech. (CSE) Course Structure (2017-18)

Semester - I

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BT 101	Engineering mathematics-I	3	1	-	30	70	100	4
BT 102	Communication Skills	3	1	-	30	70	100	4
BT 103	Engineering Physics	3	1	-	30	70	100	4
BT 104	Computer Programming-I	3	1	-	30	70	100	4
BT 105	Environmental Engineering and Disaster Management	3	1	-	30	70	100	4
<i>PRACTICALS/VIVA VOCE</i>		No. of Teaching Hours			Sessional	Practical	Total	Credits
BT 107	Communication Skills Lab	-	-	2	30	20	50	1
BT 108	Engineering Physics Lab	-	-	2	30	20	50	1
BT 109	Computer Programming Lab	-	-	2	30	20	50	1
BT 110	Computer Aided Engineering Graphics	-	-	2	30	20	50	1
BT 111	Mechanical Workshop Practice	-	-	2	30	20	50	1
TOTAL		15	5	10	300	450	750	25

Semester - II

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BT 201	Engineering Mathematics-II	3	1	-	30	70	100	4
BT 202	Human Values	3	-	-	30	70	100	3
BT 203	Engineering Chemistry	3	1	-	30	70	100	4
BT 204	Computer Programming-II	3	-	-	30	70	100	3
Elective (any two)*								
BT 205A	Basic Electrical and Electronic Engineering	3	-	-	30	70	100	3
BT 205B	Basic Civil Engineering	3	-	-	30	70	100	3
BT 205C	Basic Mechanical Engineering	3	-	-	30	70	100	3
BT 205D	Engineering Mechanics	3	-	-	30	70	100	3
PRACTICALS/VIVA VOCE								
		No. of Teaching Hours			Sessional	Practical	Total	Credits
BT 206	Human Values: Activities	-	-	2	30	20	50	1
BT 207	Engineering Chemistry Lab	-	-	2	30	20	50	1
BT 208	Computer Programming-II Lab	-	-	2	30	20	50	1
BT 209	Computer Aided Machine Drawing	-	-	2	30	20	50	1
TOTAL		18	2	10	330	520	800	24

Semester -III

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 301	Advanced Engineering Mathematics	3	1	0	30	70	100	4
BTCS302	Managerial Economics and Financial Accounting	3	0	0	30	70	100	3
BTCS 303	Digital Electronics	3	0	0	30	70	100	3
BTCS 304	Data Structures and Algorithms	3	1	0	30	70	100	4
BTCS 305	Object Oriented Programming	3	1	0	30	70	100	4
BTCS 306	Software Engineering	3	1	0	30	70	100	4
BTCS 307	Data Structures and Algorithms Lab	0	0	2	30	20	50	1
BTCS 308	Object Oriented Programming Lab	0	0	2	30	20	50	1
BTCS309	Software Engineering Lab	0	0	2	30	20	50	1
BTCS 310	Digital Electronics Lab	0	0	2	30	20	50	1
BTCS 311	Mini Project						50	1
	TOTAL	18	4	8	300	500	800	27

Semester -IV

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS401	Discrete Mathematics Structure	3	1	0	30	70	100	4
BTCS402	Technical Communication	3	0	0	30	70	100	3
BTCS403	Microprocessor & Interfaces	3	0	0	30	70	100	3
BTCS404	Database Management System	3	0	0	30	70	100	3
BTCS 405	Theory of Computation	3	1	0	30	70	100	4
BTCS406	Data Communication and Computer Networks	3	0	0	30	70	100	3
BTCS 407	Microprocessor & Interfaces Lab	0	0	2	30	20	50	1
BTCS 408	Database Management System Lab	0	0	2	30	20	50	1
BTCS 409	Network Programming Lab	0	0	2	30	20	50	1
BTCS 410	Linux Shell Programming Lab	0	0	2	30	20	50	1
BTCS 411	Java Lab	0	0	2	30	20	50	1
BTCS 412	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	18	2	10	330	520	900	26

Semester –V

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 501	Information Theory & Coding	3	-	-	30	70	100	3
BTCS 502	Compiler Design	3	-	-	30	70	100	3
BTCS 503	Operating System	3	-	-	30	70	100	3
BTCS 504	Computer Graphics & Multimedia	3	-	-	30	70	100	3
BTCS 505	Analysis of Algorithms	3	-	-	30	70	100	3
BTCS 506A	Wireless Communication	3	-	-	30	70	100	3
BTCS 506B	Human-Computer Interaction	3	-	-	30	70	100	3
BTCS 506C	Bioinformatics	3	-	-	30	70	100	3
LABS								
BTCS 507	Computer Graphics & Multimedia Lab	-	-	2	30	20	50	1
BTCS 508	Compiler Design Lab	-	-	2	30	20	50	1
BTCS 509	Analysis of Algorithms Lab	-	-	2	30	20	50	1
BTCS 510	Advance Java Lab	-	-	2	30	20	50	1
BTCS 511	Industrial Training	-	-	2	30	20	50	1
BTCS 512	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	18	-	10	330	520	900	24

Semester –VI

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS 601	Digital Image Processing	3	1	1	30	70	100	3
BTCS 602	Machine Learning	3	0	0	30	70	100	3
BTCS 603	Information Security System	3	0	0	30	70	100	3
BTCS 604	Computer Architecture and Organization	3	0	0	30	70	100	3
BTCS 605	Artificial Intelligence	3	1	0	30	70	100	3
BTCS 606	Cloud Computing	3	0	0	30	70	100	3
ELECTIVE SUBJECT								
BTCS 607A	Distributed System	3	0	0	30	70	100	3
BTCS 607B	Software Defined Network	3	0	0	30	70	100	3
BTCS 607C	Ecommerce & ERP	3	0	0	30	70	100	3
LABS								
BTCS 608	Digital Image Processing Lab	0	0	2	30	20	50	1
BTCS 609	Machine Learning Lab	0	0	2	30	20	50	1
BTCS 610	Python Lab	0	0	2	30	20	50	1
BTCS 611	Mobile Application Development Lab	0	0	2	30	20	50	1
BTCS 612	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	21	2	8	330	570	950	26

Semester –VII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS701	Internet of Things	3	1	1	30	70	100	3
ELECTIVE SUBJECT								
BTCS 702A	Principle of Electronic Communication	3	0	0	30	70	100	3
BTCS 702B	Micro and Smart System Technology	3	0	0	30	70	100	3
BTCS 702C	Optimization Techniques	3	0	0	30	70	100	3
LABS								
BTCS 703	Internet of Things Lab	0	0	2	30	20	50	1
BTCS704	Cyber Security Lab	0	0	2	30	20	50	1
BTCS705	Industrial Training	0	0	2	30	20	50	1
BTCS706	Seminar	0	0	2	30	20	50	1
BTCS707	Social Outreach, Discipline &Extra Curricular Activities						50	1
	TOTAL	6	0	8	180	220	450	11

Semester –VIII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCS801	Big Data Analytics	3	1	1	30	70	100	3
ELECTIVE SUBJECT								
BTCS802A	Soft Computing	3	0	0	30	70	100	3
BTCS802B	Robotics and Control	3	0	0	30	70	100	3
BTCS802C	Simulation Modeling and Analysis	3	0	0	30	70	100	3
LABS								
BTCS803	Big Data Analytics Lab	0	0	2	30	20	50	1
BTCS804	Software Testing and Validation Lab	0	0	2	30	20	50	1
BTCS805	Project	0	0	0	120	80	200	4
BTCS806	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	7	2	4	270	330	650	15



JAGADGURUKUL
UNIVERSITY

Faculty of Engineering & Technology

B. Tech.

(Computer Science & Engineering)

(2018-19)

Program Structure

B.Tech. (CSE) Course Structure (2018-19)

Semester - I

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			Credits
Code	Subject/Paper	L	T	P	IA	EA	Total	
BTBSC 101	Engineering Mathematics-I	3	1	-	30	70	100	4
BTBSC 102	Engineering Physics	3	1	-	30	70	100	4
BTHSMC 103	Communication Skills	2	-	-	30	70	100	2
BTESC 104	Programming for Problem Solving	2	-	-	30	70	100	2
BTESC 105A/ BTESC 105B	Basic Electrical Engineering/ Basic Civil Engineering	2	-	-	30	70	100	2
PRACTICALS/ VIVA VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTBSC 106	Engineering Physics Lab	-	-	2	30	20	50	1
BTHSMC 107	Language Lab	-	-	2	30	20	50	1
BTESC 108	Computer Programming Lab	-	-	2	30	20	50	1
BTESC109A/ BTESC109B	Basic Electrical Electronics Engineering Lab/ Basic Civil Engineering Lab	-	-	2	30	20	50	1
BTESC 110	Computer Aided Engineering Graphics Lab	-	-	2	30	20	50	1
BTSODECA 111	Discipline	-	-	-	-	-	50	1
Total		12	2	10	300	450	800	20

Semester - II

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			Credits
Code	Subject/Paper	L	T	P	IA	EA	Total	
BTBSC 201	Engineering Mathematics-II	3	1	-	30	70	100	4
BTBSC 202	Engineering Chemistry	3	1	-	30	70	100	4
BTHSMC 203	Human Values	2	-	-	30	70	100	2
BTESC 204	Basic Mechanical Engineering	2	-	-	30	70	100	2
BTESC205A/ BTESC205B	Basic Civil Engineering/ Basic Electrical Engineering	2	-	-	30	70	100	2
BTHSMC 206	Advanced English	2	-	-	30	70	100	2
PRACTICALS/ VIVA VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTBSC 207	Engineering Chemistry Lab	-	-	2	30	20	50	1
BTHSMC 208	Human Values Activities	-	-	2	30	20	50	1
BTESC 209	Manufacturing Practices Workshop	-	-	2	30	20	50	1
BTESC210A/ BTESC 210B	Basic Civil Engineering Lab/ Basic Electrical Engineering Lab	-	-	2	30	20	50	1
BTESC 211	Computer Aided Machine Drawing Lab	-	-	2	30	20	50	1
BTSODECA212	Discipline	-	-	-	-	-	50	1

Semester –III

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTC SBSC 301	Advanced Engineering Mathematics	3	-	-	30	70	100	3
BTC SHSMC 302	Managerial Economics and Financial Accounting	2	-	-	30	70	100	2
BTC ESEC 303	Digital Electronics	3	-	-	30	70	100	3
BTC SPCC 304	Data Structures and Algorithms	3	-	-	30	70	100	3
BTC SPCC 305	Object Oriented Programming	3	-	-	30	70	100	3
BTC SPCC 306	Software Engineering	3	-	-	30	70	100	3
BTC SPCC 307	Data Structures and Algorithms Lab	-	-	2	30	20	50	1
BTC SPCC 308	Object Oriented Programming Lab	-	-	2	30	20	50	1
BTC SPCC 309	Software Engineering Lab	-	-	2	30	20	50	1
BTC SPCC 310	Digital Electronics Lab	-	-	2	30	20	50	1
BTC SP SIT 311	Industrial Training/ Seminar	-	-	-	-	-	50	1
BTC SSODECA 312	Social Outreach, Discipline & Extra Curricular Activities	-	-	-	-	-	50	1
	TOTAL	17	-	8	300	500	900	23

Semester -IV

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTC SBSC 401	Discrete Mathematics Structure	3	1	0	30	70	100	4
BTC SHSMC 402	Technical Communication	3	0	0	30	70	100	3
BTC ESEC 403	Microprocessor & Interfaces	3	0	0	30	70	100	3
BTC SPCC 404	Database Management System	3	0	0	30	70	100	3
BTC SPCC 405	Theory of Computation	3	1	0	30	70	100	4
BTC SPCC 406	Data Communication and Computer Networks	3	0	0	30	70	100	3
BTC SPCC 407	Microprocessor & Interfaces Lab	0	0	2	30	20	50	1
BTC SPCC 408	Database Management System Lab	0	0	2	30	20	50	1
BTC SPCC 409	Network Programming Lab	0	0	2	30	20	50	1
BTC SPCC 410	Linux Shell Programming Lab	0	0	2	30	20	50	1
BTC SPCC 411	Java Lab	0	0	2	30	20	50	1
BTC SSODECA 412	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	18	2	10	330	520	900	26

Semester –V

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCSESC 501	Information Theory & Coding	3	-	-	30	70	100	3
BT CSPCC 502	Compiler Design	3	-	-	30	70	100	3
BT CSPCC 503	Operating System	3	-	-	30	70	100	3
BTCSPCC 504	Computer Graphics & Multimedia	3	-	-	30	70	100	3
BTCSPCC 505	Analysis of Algorithms	3	-	-	30	70	100	3
BTCSPEC 506A	Wireless Communication	3	-	-	30	70	100	3
BTCSPEC 506B	Human-Computer Interaction	3	-	-	30	70	100	3
BTCSPEC 506C	Bioinformatics	3	-	-	30	70	100	3
LABS								
BTCSPCC 507	Computer Graphics & Multimedia Lab	-	-	2	30	20	50	1
BTCSPCC 508	Compiler Design Lab	-	-	2	30	20	50	1
BTCSPCC 509	Analysis of Algorithms Lab	-	-	2	30	20	50	1
BTCSPCC 510	Advance Java Lab	-	-	2	30	20	50	1
BTCSPSIT 511	Industrial Training	-	-	2	30	20	50	1
BT CSSODE CA 512	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	24	-	10	330	520	900	24

Semester –VI

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCSESC 601	Digital Image Processing	3	1	1	30	70	100	3
BTCSPCC 602	Machine Learning	3	0	0	30	70	100	3
BTCSPCC 603	Information Security System	3	0	0	30	70	100	3
BTCSPCC 604	Computer Architecture and Organization	3	0	0	30	70	100	3
BTCSPCC 605	Artificial Intelligence	3	1	0	30	70	100	3
BTCSPCC 606	Cloud Computing	3	0	0	30	70	100	3
ELECTIVE SUBJECT								
BTCSPEC 607A	Distributed System	3	0	0	30	70	100	3
BTCSPEC 607B	Software Defined Network	3	0	0	30	70	100	3
BTCSPEC 607C	Ecommerce & ERP	3	0	0	30	70	100	3
LABS								
BTCSPCC 608	Digital Image Processing Lab	0	0	2	30	20	50	1
BTCSPCC 609	Machine Learning Lab	0	0	2	30	20	50	1
BTCSPCC 610	Python Lab	0	0	2	30	20	50	1
BTCSPCC 611	Mobile Application Development Lab	0	0	2	30	20	50	1
BT CSSODE CA 612	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	21	2	8	330	570	950	26

Semester –VII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCSPCC 701	Internet of Things	3	1	-	30	70	100	4
ELECTIVE SUBJECT								
BTC SOE 702A	Principle of Electronic Communication	3	1	0	30	70	100	4
BTC SOE 702B	Micro and Smart System Technology	3	1	0	30	70	100	4
BTC SOE 702C	Optimization Techniques	3	1	0	30	70	100	4
LABS								
BTCSPCC 703	Internet of Things Lab	0	0	2	30	20	50	1
BTCSPCC 704	Cyber Security Lab	0	0	2	30	20	50	1
BTCSPSIT 705	Industrial Training	0	0	2	30	20	50	1
BTCSPSIT 706	Seminar	0	0	2	30	20	50	1
BTCSSODE CA 707	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	6	2	8	180	220	450	13

Semester –VIII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCSPCC 801	Big Data Analytics	3	1	1	30	70	100	3
ELECTIVE SUBJECT								
BTC SOE 802A	Soft Computing	3	0	0	30	70	100	3
BTC SOE 802B	Robotics and Control	3	0	0	30	70	100	3
BTC SOE 802C	Simulation Modeling and Analysis	3	0	0	30	70	100	3
LABS								
BTCSPCC 803	Big Data Analytics Lab	0	0	2	30	20	50	1
BTCSPCC 804	Software Testing and Validation Lab	0	0	2	30	20	50	1
BTCSPSIT 805	Project	0	0	0	120	80	200	4
BTCSSODE CA 806	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	6	0	4	240	260	550	13



JAGADGURUKUL
UNIVERSITY

Faculty of Engineering & Technology

B. Tech.

(Computer Science & Engineering)

(2019-20)

Program Structure

B.Tech. (CSE) Course Structure (2019-20)

Semester - I

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTBSC 101	Engineering Mathematics-I	3	1	1	30	70	100	4
BTBSC 102	Engineering Physics	3	1	1	30	70	100	4
BTHSMC 103	Communication Skills	2	1	1	30	70	100	2
BTESC 104	Programming for Problem Solving	2	1	1	30	70	100	2
BTESC 105A/ BTESC 105B	Basic Electrical Engineering/ Basic Civil Engineering	2	1	1	30	70	100	2
PRACTICALS/ VIVA VOCE		No. of Teaching Hours			Sessi onal	Practic al	Tot al	Cred its
BTBSC 106	Engineering Physics Lab	1	1	2	30	20	50	1
BTHSMC 107	Language Lab	1	1	2	30	20	50	1
BTESC 108	Computer Programming Lab	1	1	2	30	20	50	1
BTESC109A/ BTESC109B	Basic Electrical Engineering Lab/ Basic Civil Engineering Lab	1	1	2	30	20	50	1
BTESC 110	Computer Aided Engineering Graphics	1	1	2	30	20	50	1
BTSODECA111	Social Outreach, Discipline & Extra Curricular Activities	1	1	1	1	1	50	1
Total		12	2	10	300	450	800	20

Semester - II

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTBSC 201	Engineering Mathematics-II	3	1	-	30	70	100	4
BTBSC 202	Engineering Chemistry	3	1	-	30	70	100	4
BTHSMC 203	Human Values	2	-	-	30	70	100	2
BTESC 204	Basic Mechanical Engineering	2	-	-	30	70	100	2
BTESC205A/ BTESC205B	Basic Civil Engineering/ Basic Electrical Engineering	2	-	-	30	70	100	2
BTHSMC 206	Advanced English	2	-	-	30	70	100	2
PRACTICALS/ VIVA VOCE		No. of Teaching Hours			Sessional	Practical	Total	Credits
BTBSC 207	Engineering Chemistry Lab	-	-	2	30	20	50	1
BTHSMC 208	Human Values Activities	-	-	2	30	20	50	1
BTESC 209	Manufacturing Practices Workshop	-	-	2	30	20	50	1
BTESC210A/ BTESC 210B	Basic Civil Engineering Lab/ Basic Electrical Engineering Lab	-	-	2	30	20	50	1
BTESC 211	Computer Aided Machine Drawing	-	-	2	30	20	50	1
BTSODECA212	Social Outreach, Discipline & Extra Curricular Activities	-	-	-	-	-	50	1

Semester –III

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTC SBSC 301	Advanced Engineering Mathematics	3	-	-	30	70	100	3
BTC SHSMC 302	Managerial Economics and Financial Accounting	2	-	-	30	70	100	2
BTC ESEC 303	Digital Electronics	3	-	-	30	70	100	3
BTC SPCC 304	Data Structures and Algorithms	3	-	-	30	70	100	3
BTC SPCC 305	Object Oriented Programming	3	-	-	30	70	100	3
BTC SPCC 306	Software Engineering	3	-	-	30	70	100	3
BTC SPCC 307	Data Structures and Algorithms Lab	-	-	2	30	20	50	1
BTC SPCC 308	Object Oriented Programming Lab	-	-	2	30	20	50	1
BTC SPCC 309	Software Engineering Lab	-	-	2	30	20	50	1
BTC SPCC 310	Digital Electronics Lab	-	-	2	30	20	50	1
BTC SP SIT 311	Industrial Training/ Seminar	-	-	-	-	-	50	1
BTC SSODECA 312	Social Outreach, Discipline & Extra Curricular Activities	-	-	-	-	-	50	1
	TOTAL	17	-	8	300	500	900	23

Semester -IV

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTC SBSC 401	Discrete Mathematics Structure	3	1	0	30	70	100	4
BTC SHSMC 402	Technical Communication	3	0	0	30	70	100	3
BTC ESEC 403	Microprocessor & Interfaces	3	0	0	30	70	100	3
BTC SPCC 404	Database Management System	3	0	0	30	70	100	3
BTC SPCC 405	Theory of Computation	3	1	0	30	70	100	4
BTC SPCC 406	Data Communication and Computer Networks	3	0	0	30	70	100	3
BTC SPCC 407	Microprocessor & Interfaces Lab	0	0	2	30	20	50	1
BTC SPCC 408	Database Management System Lab	0	0	2	30	20	50	1
BTC SPCC 409	Network Programming Lab	0	0	2	30	20	50	1
BTC SPCC 410	Linux Shell Programming Lab	0	0	2	30	20	50	1
BTC SPCC411	Java Lab	0	0	2	30	20	50	1
BTC SSODECA 412	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	18	2	10	330	520	900	26

Semester –V

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCSESC 501	Information Theory & Coding	3	-	-	30	70	100	3
BT CSPCC 502	Compiler Design	3	-	-	30	70	100	3
BT CSPCC 503	Operating System	3	-	-	30	70	100	3
BTCSPCC 504	Computer Graphics & Multimedia	3	-	-	30	70	100	3
BTCSPCC 505	Analysis of Algorithms	3	-	-	30	70	100	3
BTCSPEC 506A	Wireless Communication	3	-	-	30	70	100	3
BTCSPEC 506B	Human-Computer Interaction	3	-	-	30	70	100	3
BTCSPEC 506C	Bioinformatics	3	-	-	30	70	100	3
LABS								
BTCSPCC 507	Computer Graphics & Multimedia Lab	-	-	2	30	20	50	1
BTCSPCC 508	Compiler Design Lab	-	-	2	30	20	50	1
BTCSPCC 509	Analysis of Algorithms Lab	-	-	2	30	20	50	1
BTCSPCC 510	Advance Java Lab	-	-	2	30	20	50	1
BTCSPSIT 511	Industrial Training	-	-	2	30	20	50	1
BT CSSODE CA 512	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	24	-	10	330	520	900	24

Semester –VI

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCSESC 601	Digital Image Processing	3	1	1	30	70	100	3
BTCSPCC 602	Machine Learning	3	0	0	30	70	100	3
BTCSPCC 603	Information Security System	3	0	0	30	70	100	3
BTCSPCC 604	Computer Architecture and Organization	3	0	0	30	70	100	3
BTCSPCC 605	Artificial Intelligence	3	1	0	30	70	100	3
BTCSPCC 606	Cloud Computing	3	0	0	30	70	100	3
	Elective Subject							
BTCSPEC 607A	Distributed System	3	0	0	30	70	100	3
BTCSPEC 607B	Software Defined Network	3	0	0	30	70	100	3
BTCSPEC 607C	Ecommerce & ERP	3	0	0	30	70	100	3
LABS								
BTCSPCC 608	Digital Image Processing Lab	0	0	2	30	20	50	1
BTCSPCC 609	Machine Learning Lab	0	0	2	30	20	50	1
BTCSPCC 610	Python Lab	0	0	2	30	20	50	1
BTCSPCC 611	Mobile Application Development Lab	0	0	2	30	20	50	1
BT CSSODE CA 612	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	21	2	8	330	570	950	26

Semester –VII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCSPCC 701	Internet of Things	3	1	-	30	70	100	4
ELECTIVE SUBJECT								
BTC SOE 702A	Principle of Electronic Communication	3	1	0	30	70	100	4
BTC SOE 702B	Micro and Smart System Technology	3	1	0	30	70	100	4
BTC SOE 702C	Optimization Techniques	3	1	0	30	70	100	4
LABS								
BTCSPCC 703	Internet of Things Lab	0	0	2	30	20	50	1
BTCSPCC 704	Cyber Security Lab	0	0	2	30	20	50	1
BTCSPSIT 705	Industrial Training	0	0	2	30	20	50	1
BTCSPSIT 706	Seminar	0	0	2	30	20	50	1
BTCSSODE CA 707	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	6	2	8	180	220	450	13

Semester –VIII

THEORY PAPERS		No. of Teaching Hours			Marks Allocation			
Code	Subject/Paper	L	T	P	IA	EA	Total	Credits
BTCSPCC 801	Big Data Analytics	3	1	1	30	70	100	3
ELECTIVE SUBJECT								
BTC SOE 802A	Soft Computing	3	0	0	30	70	100	3
BTC SOE 802B	Robotics and control	3	0	0	30	70	100	3
BTC SOE 802C	Simulation Modeling and Analysis	3	0	0	30	70	100	3
LABS								
BTCSPCC 803	Big Data Analytics Lab	0	0	2	30	20	50	1
BTCSPCC 804	Software Testing and Validation Lab	0	0	2	30	20	50	1
BTCSPSIT 805	Project	0	0	0	120	80	200	4
BTCSSODE CA 806	Social Outreach, Discipline & Extra Curricular Activities						50	1
	TOTAL	6	0	4	240	260	550	13