

## Annexure-IV

### DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING Programme: B.Tech in Computer Science and Engineering (2016-2020)

#### The overall credits structure

BD Core (BC)		BD Elective (BE)	
Category	Credits	Category	Credits
DC	104	DE	16
BS	22	OE	8
BES	22		
HU	10		
<b>Total</b>	<b>158</b>	<b>Total</b>	<b>24</b>

**Total Credits = 182**

Basic Science (BS) Core			
MA-101	Engineering. Mathematics-I	3-1-0	4
PH-101	Applied Physics	3-1-2	5
MA-102	Engineering Mathematics-II	3-1-0	4
MA-211	Engineering Mathematics-III	3-1-0	4
CH-101	Applied Chemistry	3-1-2	5
	<b>Total BS Core</b>	<b>15-5-4</b>	<b>22</b>

Basic Engineering & Sciences (BES) Core			
ES-101	Environment Studies	2-1-0	3
EE-101	Basic Electrical and Electronics Engineering	2-1-0	3
ME-104	Engineering Mechanics	3-1-0	4
ME-102	Engineering. Graphics	1-1-2	3
EC-310	Microprocessor and Microcontroller	3-0-2	4
EC-210	Digital Electronics	3-0-2	4
ME-105	Engineering Workshop	0-0-2	1
	<b>Total BES Core</b>	<b>14-4-8</b>	<b>22</b>

Open Elective (OE)/Others			
OE-317	Open Elective-I	3-1-0	4
OE-327	Open Elective -II	3-1-0	4
	<b>Total</b>	<b>6-2-0</b>	<b>8</b>

Humanities and Social Sciences (HU)			
HU-101	Professional Communication-I	2-1-2	4
HU-102	Professional Communication-II	2-0-2	3
HU-218	Human Value and Ethics	3-0-0	3
	<b>Total HU Core</b>	<b>7-1-4</b>	<b>10</b>

Discipline Core (DC)			
CS-101	Computer Concepts & C. Programming	3-0-2	4
CS-119	Minor Project-I	0-0-2	1
CS-129	Minor Project-II	0-0-2	1
CS-212	Object Oriented Programming with C++	3-0-2	4
CS-213	Operating System	3-1-0	4
CS-214	Data structure using C	3-0-2	4
CS-219	Minor Project-III3	0-0-4	2
CS-221	Computer Organization and Architecture	3-1-0	4
CS-222	Cyber Security and Cyber laws	3-1-0	4
CS-223	Database Management System	3-0-2	4
CS-224	Discrete Mathematics	3-1-0	4
CS-225	Theory of Computation	3-1-0	4
CS-226	Web Technology	3-0-2	4
CS-229	Minor Project-IV	0-0-4	2
CS-311	Computer Network and Data Communication	3-1-0	4
CS-312	Computer Graphics	3-0-2	4
CS-313	Design and Analysis of Algorithm	3-1-0	4
CS-314	Software Engineering	3-1-0	4
CS-319	Minor Project-V	0-0-6	3
CS-321	Compiler Design	3-1-0	4
CS-322	Mathematical foundation of Data Science	3-1-0	4
CS-323	Programming with Java	3-0-2	4
CS-324	Data warehouse and Data mining	3-1-0	4
CS-329	Minor Project-VI	0-0-6	3
CS-411	Mobile and Cloud Computing	3-0-2	4
CS-412	Artificial Intelligence	3-1-0	4
CS-419	Major Project-I	0-0-8	4
CS-429	Major Project-II	0-0-16	8
	<b>Total DC Core</b>	<b>60-12-62</b>	<b>104</b>

<b>Departmental Elective (DE)</b>			
CS-325	Departmental Elective -I	3-1-0	4
CS-413	Departmental Elective -II	3-1-0	4
CS-421	Departmental Elective -III	3-1-0	4
CS-442	Departmental Elective - IV	3-1-0	4

<b>Discipline Electives (DE)</b>			
CS-xxx	Parallel Algorithms	3-1-0	4
CS-xxx	Computational Complexity	3-1-0	4
CS-xxx	Advance Web Technology	3-0-2	4
CS-xxx	Real Time System	3-1-0	4
CS-xxx	Object Oriented Analysis and Design	3-1-0	4
CS-xxx	.Net Framework or Python	3-0-2	4
CS-xxx	Software Project Management	3-1-0	4
CS-xxx	Natural Language Processing	3-1-0	4
CS-xxx	Distributed Database Management System	3-1-0	4
CS-xxx	Machine Learning	3-0-2	4
CS-xxx	Data Compression	3-1-0	4
CS-xxx	Advance Computer Network	3-0-2	4
CS-xxx	Robotics	3-0-2	4
CS-xxx	Pattern Recognition	3-0-2	4
CS-xxx	Advance Data Structure	3-0-2	4
CS-xxx	Digital Signal Processing	3-0-2	4
CS-xxx	Digital Image Processing	3-0-2	4