

# Bachelor of Technology in 'Computer Science and Engineering' (2019-20)

Semester	Course Code Course Name (L-T-P) Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-2)2	CLL101 Effective Communication I (2-0-0)2	MEP110 Engineering Graphics & Drawing (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP 1 Credits	390	19+1=20
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication-II (2-0-0)2	MEL150 Basics of Mechanical and Civil Engineering (2-0-2)3	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP 1 Credits	410	21+1=22
<b>Summers</b>	<b>CST101 Mini Project</b>									1
3	CSL215 FOCP-III (2-0-6)5	Open Elective-1 (Maths Elective) (2-0-2)3	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering and Project Management (1-0-3)2.5	CLP120 Creative Writing (0-1-0)-1		GP 1 Credits	330	16.5+1=17.5
4	CSL220 Operating Systems (1-0-3)2.5	ECL255 Digital Electronics & Computer Architecture (2-0-3)3.5	CSL223 Web Development Technologies (2-0-6)5	CSL230 Analysis and Design of Algorithms (1-0-3)2.5	Program Elective - I (2-0-4)4	CSV201 Skill Development (1-0-2)2		GP 1 Credits	390	19.5+1=20.5
<b>Summers</b>	<b>CST201 Practical Training</b>									2
5	CSL236 Introduction to Artificial Intelligence & Machine Learning (2-0-6)5	CSL334 Internet of Things (1-0-3)2.5	CSL240 Computer Networks (1-0-3)2.5	Program Elective-2 (2-0-4)4	Open Elective - 2 (2-0-2)3	CSD301 Creativity and Innovation Outcome Lab 1 Credit	CSC301 Seminar 1 Credit	GP 1 Credits	340	19+1=20
6	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	CSL338 Cloud & Fog Computing (2-0-3)3.5	Program Elective-3 (2-0-4)4	Program Elective-4 (2-0-4)4	CLP300 Campus to Corporate (1-0-1)1.5	Management Course (2-0-0)2		GP 1 Credits	350	17.5+1=18.5
<b>Summers</b>	<b>CST301 Industrial Internship</b>									03
7	CSD401 Project # 1 (0-0-20)10	Open Elective-3 Foreign Language (2-0-0)2	SML300 Entrepreneurship (2-0-0)2	CHL100 Environmental Studies (2-0-0)2	Open Elective -4 (MOOC) (2-0-2)3	CSL421 Principles of Compiler Design (2-0-1)2.5		GP7 1 Credits	430	21.5+1=22.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit						GP8 1 Credits	360	18+1=19
<b>Total Credits</b>									<b>166</b>	

# Bachelor of Technology in Computer Science and Engineering with Specialization in Full Stack Development' (2019-20)

Semester	Course Code Course Name (L-T-P) Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2) 4	CSL106 FOCP-I (2-0-6) 5	CHL150 Engg Chemistry (1-0-2) 2	CLL101 Effective Communication I (2-0-0)2	MEP110 Engg Graphics & Drg. (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19 + 1 = 20
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication II (2-0-0)2	MEL150 Basics of Mechanical and Civil Engineering (2-0-2) 3	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP 1 Credits	410	21+1=22
3	CSL271 UI/UX (1-0-5)3.5	CSL273 Enterprise Web Applications (2-0-6)5	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering & Project Management (1-0-3)2.5			GP3 1 Credits	320	16 + 1 = 17
4	CSL272 Interactive Web Applications (1-0-6)4	CSL274 Middleware Frameworks and ORM (2-0-6)5	CSL276 NoSQL - Part 1 (1-0-4)3	CSL278 SPA -Part 1 (2-0-6)5	CSL230 Analysis and Design of Algorithms (1-0-3)2.5			GP4 1 Credits	390	19.5+1=20.5
<b>Summers</b>	<b>CST201 Practical Training</b>									<b>2</b>
5	CSL371 SPA - Part 2 (2-0-6)5	CSL373 Devops - Part 1 (1-0-4)3	CSL375 NoSQL - Part 2 (1-0-6)4	CSL377 Monolithic Applications (1-0-6)4	CSL220 Operating Systems (1-0-3)2.5	CSL240 Computer Networks (1-0-3)2.5		GP5 1 Credits	420	21 + 1 = 22
6	CSL372 DevOps Part 2 (1-0-6)4	CSL374 Microservice Based Application (2-0-8)6	ECL255 Digital Electronics and Computer Architecture (2-0-3) 3.5	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	380	19 + 1 = 20
<b>Summers</b>	<b>CST301 Industrial Internship</b>									<b>03</b>
7	CSD401 Project # 1 (0-0-20)10	Foreign Language (2-0-0)2	SML300 Entrepreneurship (2-0-0)2	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	Open Elective (MOOC) (2-0-2)3			GP7 1 Credits	390	19.5 +1 =20.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit						GP8 1 Credits	360	18+1=19
<b>Total Credits</b>										<b>166</b>

# Bachelor of Technology in Computer Science and Engineering with Specialization in 'Cyber Security' (2019-20)

Semester	Course Code Course Name (L-T-P) Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-2)2	CLL101 Effective Communication (2-0-0)2	MEP110 Engineering Graphics & Drawing (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19+1=20
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication-II (2-0-0)2	MEL150 Basics of Mechanical and Civil Engineering (2-0-2)3	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP2 1 Credits	410	21+1=22
3	CSL281 Secure Communication & Cryptography (3-0-4)5	CSL283 Secure Coding and Vulnerabilities (2-0-3)3.5	CSL235 Scripting Languages (2-0-0)2	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering & Project management (1-0-3)2.5		GP3 1 Credits	360	18+1=19
4	CSL282 Penetration Testing (3-0-4)5	CSL284 Digital Forensics (2-0-6)5	CSL286 Programming for Cyber Security (2-0-6)5	CSL240 Computer Networks (1-0-3)2.5				GP4 1 Credits	350	17.5+1=18.5
<b>Summers</b>	<b>CST201 Practical Training</b>									<b>2</b>
5	CSL381 Malware Analysis & Reverse Engineering (2-0-6)5	CSL383 Network Security (2-0-5)4.5	CSL385 Risk Analysis & Assessment (2-0-2)3	CSL387 Web and Mobile Security (2-0-3)3.5	CSL220 Operating Systems (1-0-3)2.5	CSL230 Analysis and Design of Algorithms (1-0-3)2.5		GP5 1 Credits	420	21+1=22
6	CSL382 Blockchain (2-0-6)5	CSL384 Cloud Security Essentials (2-0-6)5	ECL255 Digital Electronics and Computer Architecture (2-0-3)3.5	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	380	19+1=20
<b>Summers</b>	<b>CST301 Industrial Internship</b>									<b>03</b>
7	CSD401 Project # 1 (0-0-20)10	Foreign Language (2-0-0)2	SML300 Entrepreneurship (2-0-0)2	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	Open Elective (MOOC) (2-0-2)3			GP7 1 Credits	390	19.5+1=20.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit						GP8 1 Credits	360	18+1=19
<b>Total Credits</b>										<b>166</b>

# Bachelor of Technology in Computer Science and Engineering with Specialization in 'Internet of Things and Cloud Computing' (2019-20)

Semester	Course Code Course Name (L-T-P) Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-2)2	CLL101 Effective Communication (2-0-0)2	MEP110 Engineering Graphics & Drawing (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19+1=20
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication-II (2-0-0)2	MEL150 Basics of Mechanical and Civil Engineering (2-0-2) 3	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP2 1 Credits	410	21+1=22
3	CSL251 Programming I (2-0-5) 4.5	CSL253 Progressive WebApps I (2-0-7) 5.5	CSL214 Database Management Systems (1-0-3) 2.5	CSL209 Data Structures (1-0-3) 2.5	CSL229 Software Engineering & Project Management (1-0-3) 2.5			GP3 1 Credits	350	17.5 +1 = 18.5
4	CSL252 Programming II (2-0-6) 5	CSL254 Progressive WebApps II (2-0-4) 4	ECL252 Micro Controllers & Sensors (2-0-5) 4.5	CSL230 Analysis and Design of Algorithms (1-0-3) 2.5	ECL255 Digital Electronics and Computer Architecture (2-0-3) 3.5			GP4 1 Credits	390	19.5 + 1= 20.5
<b>Summers</b>	<b>CST201 Practical Training</b>									<b>2</b>
5	CSL234 Data Mining and Warehousing (2-0-6) 5	CSL361 Security in IoT (2-0-5) 4.5	CSL237 Introduction to AI and ML & DL (2-0-8) 6	CSL240 Computer Networks (1-0-3) 2.5	CSL220 Operating Systems (1-0-3) 2.5			GP5 1 Credits	410	20.5 +1 = 21.5
6	CSL362 Introduction to Big Data (2-0-6) 5	CSL364 Cloud & Fog Computing (1-0-5) 3.5	CSL358 Introduction to Robotics (1-0-6) 4	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	360	18 + 1= 19
<b>Summers</b>	<b>CST301 Industrial Internship</b>									<b>03</b>
7	CSD401 Project # 1 (0-0-20) 10	Foreign Language (2-0-0) 2	SML300 Entrepreneurship (2-0-0) 2	CSL318 Theory of Computation (MOOC) (2-0-1) 2.5	Open Elective (MOOC) (2-0-2) 3			GP7 1 Credits	390	19.5 +1 =20.5
8	CSD402 Project # 2 / Internship (0-0-36) 18	Self Study Course GATE Audit	CSL426 AI and Ethics (Online) (Audit)					GP8 1 Credits	360	18+1=19
<b>Total Credits</b>										<b>166</b>

# Bachelor of Technology in Computer Science and Engineering with Specialization in 'Data Science and Artificial Intelligence' (2019-20)

Semester	Course Code Course Name (L-T-P) Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-2)2	CLL101 Effective Communication I (2-0-0)2	MEP110 Engineering Graphics & Drawing (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19+1=20
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication-II (2-0-0)2	MEL150 Basics of Mechanical and Civil Engineering (2-0-2)3	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP2 1 Credits	410	21+1=22
3	CSL225 Programming for Data Science (1-0-5)3.5	CSL227 Statistics and Probability (3-0-6)6	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering & Project Management (1-0-3)2.5			GP3 1 Credits	340	17 + 1 = 18
4	CSL232 Business Intelligence & Data Visualization (2-0-6)5	CSL234 Data Mining and Warehousing (2-0-6)5	CSL236 Introduction to AI and ML (2-0-6)5	CSL230 Analysis and Design of Algorithms (1-0-3)2.5				GP4 1 Credits	350	17.5 + 1 = 18.5
<b>Summers</b>	<b>CST201 Practical Training</b>									<b>2</b>
5	CSL311 Big Data (4-0-8)8	CSL313 Machine Learning (4-0-8)8	CSL220 Operating Systems (1-0-3)2.5	CSL240 Computer Networks (1-0-3)2.5				GP5 1 Credits	420	21 + 1 = 22
6	CSL312 Deep Learning (3-0-5)5.5	CSL316 Introduction to Image Processing and Recognition (3-0-5)5.5	ECL255 Digital Electronics and Computer Architecture (2-0-3)3.5	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credits	400	20 + 1 = 21
<b>Summers</b>	<b>CST301 Industrial Internship</b>									<b>03</b>
7	CSD401 Project # 1 (0-0-20)10	Foreign Language (2-0-0)2	SML300 Entrepreneurship (2-0-0)2	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	Open Elective (MOOC) (2-0-2)3			GP7 1 Credits	390	19.5 + 1 = 20.5
8	CSD402 Project # 2 / Internship (0-0-36)18	Self Study Course GATE Audit	CSL426 AI and Ethics (Online) (Audit)					GP8 1 Credits	360	18+1=19
	<b>Total Credits</b>									<b>166</b>

# Bachelor of Technology in Computer Science and Engineering with Specialization in 'Game Technology, Augmented Reality and Virtual Reality' (2019-20)

Semester	Course Code Course Name (L-T-P) Credits							GP	Contact Hours per Semester	Credits
1	MAL151 Engg Maths-I (3-0-2)4	CSL106 FOCP-I (2-0-6)5	CHL150 Engg Chemistry (1-0-2)2	CLL101 Effective Communication I (2-0-0)2	MEP110 Engg Graphics & Drg. (1-0-3)2.5	CLL120 Human Values and Professional Ethics (1-0-1)1.5	CSL110 Problem Solving and Design Thinking (0-0-4)2	GP1 1 Credits	390	19+1=20
2	MAL152 Engg Maths-II (3-0-2)4	CSL108 FOCP-II (2-0-6)5	PHY150 Engineering Physics (3-0-2)4	CLL102 Effective Communication -II (2-0-0)2	MEL150 Basics of Mechanical and Civil Engineering (2-0-2)3	ECL110 Basic of Electrical & Electronics Engineering (2-0-2)3		GP2 1 Credits	410	21+1=22
3	CSL241 Game Design Essentials (1-0-4)3	CSL243 Digital Asset Creation (1-0-4)3	CSL245 Programming for Games (2-0-6)5	CSL214 Database Management Systems (1-0-3)2.5	CSL209 Data Structures (1-0-3)2.5	CSL229 Software Engineering and Project Management (1-0-3)2.5		GP3 1 Credits	370	18.5+1=19.5
4	CSL242 Artificial Intelligence for Games (1-0-6)4	CSL244 Advanced Programming for Games (3-0-5)5.5	CSL246 Cross Platform Game Development (2-0-8)6	CSL230 Analysis and Design of Algorithms (1-0-3)2.5				GP4 1 Credits	360	18+1=19
<b>Summers</b>	<b>CST201 Practical Training</b>									<b>2</b>
5	CSL341 AR Development (2-0-6)5	CSL343 Designing Human Computer Interfaces (1-0-6)4	CSL345 VR Development (2-0-8)6	CSL220 Operating Systems (1-0-3)2.5	CSL240 Computer Networks (1-0-3)2.5			GP5 1 Credits	400	20 +1 = 21
6	CSL342 XR Studio I (2-0-6)5	CSL344 XR Studio II (2-0-6)5	ECL255 Digital Electronics and Computer Architecture (2-0-3)3.5	CLP300 Campus to Corporate (1-0-1)1.5	CHL100 Environmental Studies (2-0-0)2	Management Course (2-0-0)2		GP6 1 Credit	380	19+1=20
<b>Summers</b>	<b>CST301 Industrial Internship</b>									<b>3</b>
7	CSD401 Project # 1 (0-0-20)10	Foreign Language (2-0-0)2	SML300 Entrepreneurship (2-0-0)2	CSL318 Theory of Computation (MOOC) (2-0-1)2.5	Open Elective (MOOC) (2-0-2)3			GP7 1 Credit	390	19.5+1=20.5
8	CSD402 Project # 2/Internship (0-0-36)18	Self Study Course GATE Audit						GP8 1 Credits	360	18+1=19
<b>Total Credits</b>										<b>166</b>