### **ACADEMIC CURRICULA**

#### UNDERGRADUATE DEGREE PROGRAMMES

**Bachelor of Technology** 

(B.Tech. - Four Years)

(Choice Based Flexible Credit System)

Regulations 2018

Volume - 1

(Revised in March 2019)



# SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

(Deemed to be University u/s 3 of UGC Act, 1956)

Kattankulathur, Kancheepuram District 603203, Tamil Nadu, India



# 13. B.Tech. in Computer Science and Engineering with Specialization in Big Data Analytics

#### 13. (a) Mission of the Department

Mission Stmt - 1	To impart knowledge in cutting edge Computer Science and Engineering technologies in par with industrial standards.
Mission Stmt - 2	To collaborate with renowned academic institutions to uplift innovative research and development in Computer Science and
IVIISSION SUNC - Z	Engineering and its allied fields to serve the needs of society
Mission Stmt - 3	To demonstrate strong communication skills and possess the ability to design computing systems individually as well as part of a
MISSION SUM - 3	multidisciplinary teams.
Mission Stmt - 4	To instill societal, safety, cultural, environmental, and ethical responsibilities in all professional activities
Mission Stmt - 5	To produce successful Computer Science and Engineering graduates with personal and professional responsibilities and commitment
IVIISSIUII SUIIL - 3	to lifelong learning

### 13. (b) Program Educational Objectives (PEO)

PEO - 1	Graduates will be able to perform in technical/managerial roles ranging from design, development, problem solving to production support in software industries and R&D sectors.
PEO - 2	Graduates will be able to successfully pursue higher education in reputed institutions.
PEO - 3	Graduates will have the ability to adapt, contribute and innovate new technologies and systems in the key domains of Computer Science and Engineering.
PEO - 4	Graduates will be ethically and socially responsible solution providers and entrepreneurs in Computer Science and other engineering disciplines.
PEO - 5	Graduates will possess the additional skills in handling Big Data using the state-of-art tools and techniques
PEO - 6	Graduates will be able to apply the principles of data science for providing real world business solutions

#### 13. (c) Mission of the Department to Program Educational Objectives (PEO) Mapping

	Mission Stmt 1	Mission Stmt 2	Mission Stmt 3	Mission Stmt 4	Mission Stmt 5
PEO - 1	H	Н	H	Н	Н
PEO - 2	L	H	Н	Н	Н
PEO - 3	H	H	M	AT A L	Н
PEO - 4	M	H	M	Н	Н
PEO - 5	М	H	Н	Н	Н
PEO - 6	M	H	Н	Н	Н

H - High Correlation, M - Medium Correlation, L - Low Correlation

### 13. (d) Mapping Program Educational Objectives (PEO) to Program Learning Outcomes (PLO)

						Progra	am Lear	ning Ou	tcomes	(PLO)					
		7	H	M	Gra	aduate At	tributes (0	GA)				1	Prog Out	gra <mark>m</mark> Spe comes (P	ecific (SO)
	Engineering Knowledge	Problem Analysis	Design & Development	Analysis, Design, Research	Modern Tool Usage	Society & Culture	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO - 1	PSO - 2	PSO - 3
PEO - 1	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
PEO - 2	Н	Н	Н	Н	Н	L	L	Н	L	Н	L	Н	Н	Н	Н
PEO - 3	Н	Н	Н	Н	Н	L	L	L	L	L	Н	Н	Н	Н	Н
PEO - 4	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
PEO - 5	Н	Н	L	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
PEO - 6	Н	Н	L	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н

H – High Correlation, M – Medium Correlation, L – Low Correlation

#### PSO – Program Specific Outcomes (PSO)

PSO - 1	Ability to Utilize Data Science Principles
PSO - 2	Ability to Analyze Data, Software & Programming
PSO - 3	Analysis and Interpretation of data

#### 13. (e) Program Structure: B.Tech. in Computer Science and Engineering with Specialization in Big Data Analytics

	1. Humanities & Social Sciences						2. Basic Science Courses (B)				
	including Management Courses (H)					Course	Course	Hou	rs/ W	eek	
Course	Course	Hou	ırs/ W	/eek		Code	Title	L	Τ	Р	С
Code	Title	L	Т	Р	С	18PYB103J	Physics: Semiconductor Physics	3	1	2	5
18LEH101J	English	2	0	2	3	18CYB101J	Chemistry	3	1	2	5
18LEH102J	Chinese						Calculus and Linear Algebra	3	1	0	4
18LEH103J	French						Advanced Calculus and Complex Analysis	3	1	0	4
18LEH104J	German	2	0	2	3		Transforms and Boundary Value Problems	3	1	0	4
18LEH105J	Japanese						Probability and Queueing Theory	3	1	0	4
18LEH106J							Discrete Mathematics for Engineers	3	1	0	4
	General Aptitude	0	0	2	1	18BTB101T	Biology	2	0	0	2
	Management Principles for Engineers	2	0	0	2		Total Learning Credits				32
	Social Engineering	2	0	0	2						
18PDH201T	Employability Skills & Practices	0	0	2	1		4. Professional Core Courses (C)				
	Total Learning Credits				12	Course	Course	Hou	rs/ W		
	0.5.1.0.1.0.1.00					Code	Title	L	Τ	Ρ	С
0	3. Engineering Science Courses (S)	T.,	/14	, ,	1		Data Structures and Algorithms	3	0	2	4
Course	Course	-	ırs/ W			18CSC202J	Object Oriented Design and Programming	3	0	2	4
Code	Title	L	T	Р	C		Computer Organization and Architecture	3	0	2	4
	Engineering Graphics and Design	1	0	4	3		Design and Analysis of Algorithms	3	0	2	4
	Basic Electrical and Electronics Engineering	3	1	2	5		Operating Systems	3	0	2	4
	Civil and Mechanical Engineering Workshop Programming for Problem Solving	3	0	4	3 5		Software Engineering and Project Management	3	0	2	4
	Analog and Digital Electronics	3	0	2	4	18CSC207J	Advanced Programming Practice	3	0	2	4
	Computer Communications	2	0	2	3		Formal Language and Automata	3	0	0	3
100002020	Total Learning Credits		0		23		Computer Networks	3	0	2	4
					23		Database Management Systems	3	0	2	4
	5. Professional Elective Courses (E)						Compiler Design	3	0	2	4
	(Any 6 Elective Courses)				1		Artificial Intelligence	3	0	2	1
Course	Course		Hours				Comprehension	0	0	2	1
		_	Wee				Competitive Professional Skills-I Competitive Professional Skills-II	0	0	2	1
Code	Title	L	T	P	С		Competitive Professional Skills-III	0	0	2	1
	Big Data Tools and Techniques	3	0	0	3	10030307L	Total Learning Credits	U	U		51
	Data Mining and Analytics	3	0	0	3		Total Learning Credits				71
	Machine Learning - I Information Storage and Management	3	0	0	3		6. Open Elective Courses (O)				
18CSE393T		3	0	0	3	Course	Course	Hou	rs/ W	eek/	
	Business Intelligence and Analytics	3	0	0	3	Code	Title	L	Τ	Р	С
	Web Intelligence	3	0	0	3		IT Infrastructure Management	3	0	0	3
	Data Science	3	0	0	3		Mobile Application Development	3	0		3
	Database Security and Privacy	3	0	0	3	18CSO103T	System Modeling and Simulation	3	0	0	3
	Data Warehousing and its Applications	3	0	0	3	18CSO104T	Free and Open Source Softwares	3	0	0	3
	Functional Programming	3	0	0	3	18CSO105T	Android Development		0	0	3
				_				3	U	-	2
	Streaming Analytics	3	0	0	3	18CSO106T	,	_		0	.3
	Streaming Analytics Big Data Visualization	3	0	0	3		Data Analysis using Open Source Tool	3	0	0	3
18CSE490T 18CSE484T	Big Data Visualization Deep Learning	3					Data Analysis using Open Source Tool IOS Development	_		0	3
18CSE490T 18CSE484T	Big Data Visualization Deep Learning Machine Learning – II	3 3	0	0	3 3 3		Data Analysis using Open Source Tool	3	0		
18CSE490T 18CSE484T	Big Data Visualization Deep Learning	3 3	0	0	3		Data Analysis using Open Source Tool IOS Development Total Learning Credits	3	0		3
18CSE490T 18CSE484T	Big Data Visualization Deep Learning Machine Learning – II	3 3	0	0	3 3 3		Data Analysis using Open Source Tool IOS Development Total Learning Credits 7. Project Work, Seminar, Internship In	3	0		3
18CSE490T 18CSE484T	Big Data Visualization Deep Learning Machine Learning – II	3 3	0	0	3 3 3		Data Analysis using Open Source Tool IOS Development Total Learning Credits	3	0	0	3
18CSE490T 18CSE484T	Big Data Visualization Deep Learning Machine Learning – II Total Learning Credits	3 3	0	0	3 3 3	18CSO107T	Data Analysis using Open Source Tool IOS Development Total Learning Credits 7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)	3	0	0	3
18CSE490T 18CSE484T 18CSE491T	Big Data Visualization Deep Learning Machine Learning – II Total Learning Credits  8. Mandatory Courses (M)	3 3 3	0 0 0	0 0 0	3 3 3	Course Code	Data Analysis using Open Source Tool IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course	3 3 Hou	0 0 rs/ W	0 /eek	3 12
18CSE490T 18CSE484T 18CSE491T	Big Data Visualization Deep Learning Machine Learning – II Total Learning Credits  8. Mandatory Courses (M) Course Title	3 3 3	0 0 0	0 0 0	3 3 3 18	Course Code 18CSP101L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course  Title	3 3 Hou L	0 0 rs/ W	0 /eek	3 12
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title  Professional Skills and Practices	3 3 3	0 0 0	0 0 0	3 3 3	Course Code 18CSP101L 18CSP102L 18CSP103L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course  Title  Massive Open Online Course - I Industrial Training-I Seminar - I	3 3 Hou L	0 0 rs/ W	0 /eek P	3 12 C
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L 18PDM201L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills	3 3 3	0 0 0	0 0 0	3 3 3 18	Course Code 18CSP101L 18CSP103L 18CSP104L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course  Title  Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II	Hou L	0 0 0	0 /eek P	3 12 C
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L 18PDM201L 18PDM203L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development	3 3 3 5 L 0	0 0 0	0 0 0 0	3 3 3 18	Course Code 18CSP101L 18CSP102L 18CSP103L 18CSP104L 18CSP105L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II Industrial Training-II	3 3 Hou L	0 0 rs/ W	0 /eek P	3 12 C
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L 18PDM201L 18PDM203L 18PDM202L	Big Data Visualization Deep Learning Machine Learning – II Total Learning Credits  8. Mandatory Courses (M) Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills	3 3 3 5	0 0 0	0 0 0	3 3 3 18	Course Code 18CSP101L 18CSP102L 18CSP103L 18CSP104L 18CSP105L 18CSP106L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I Industrial Training-I Seminar - I Industrial Training-II Seminar - II	Hou L	0 0 0	0 /eek P	3 12 C
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L 18PDM201L 18PDM203L 18PDM202L 18PDM204L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs	3 3 3 3 5	0 0 0 0	0 0 0 0	3 3 3 18 C 0 0	Course Code 18CSP101L 18CSP102L 18CSP103L 18CSP104L 18CSP105L 18CSP105L 18CSP105L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II Industrial Training-II Seminar - II Mindustrial Training-II Seminar - II Minor Project	3 3 Hou L 0	0 0 0	0 Veek P 2	3 12 C 1
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L 18PDM201L 18PDM203L 18PDM204L 18PDM301L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills	3 3 3 5 L 0	0 0 0	0 0 0 0	3 3 3 18	Course Code 18CSP101L 18CSP102L 18CSP103L 18CSP105L 18CSP105L 18CSP106L 18CSP106L 18CSP106L 18CSP107L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II Industrial Training-II Seminar - II Minor Project Internship (4-6 weeks)	Hou L	0 0 0	0 /eek P	3 12 C
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L 18PDM203L 18PDM204L 18PDM204L 18PDM301L 18PDM301L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills Entrepreneurship Management	3 3 3 3 3 5 1 1 1 0 0	0 0 0	0 0 0 0 P 2 2 2	3 3 3 18 C 0 0	Course Code 18CSP101L 18CSP103L 18CSP104L 18CSP105L 18CSP106L 18CSP106L 18CSP106L 18CSP106L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - III Industrial Training-II Seminar - II Minor Project Internship (4-6 weeks) Project	3 3 Hou L 0	0 0 0	0 Veek P 2	3 12 C 1
18CSE490T 18CSE484T 18CSE491T 18CSE491T Code 18PDM101L 18PDM201L 18PDM202L 18PDM204L 18PDM301L 18PDM301L 18PDM302L 18PDM302L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills Entrepreneurship Management Constitution of India	3 3 3 3 3 4 0 - 0	T 0 0 0 0 0 0 0	0 0 0 0 P 2 2 2 2	3 3 3 18 C 0 0 0	Course Code 18CSP101L 18CSP103L 18CSP104L 18CSP105L 18CSP106L 18CSP106L 18CSP106L 18CSP106L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I  Industrial Training-I  Seminar - I  Massive Open Online Course - II  Industrial Training-II  Seminar - II  Minor Project  Internship (4-6 weeks)  Project  Semester Internship	Hou L 0 0 0	0 0 0 T 0	0 P 2 2 6	3 12 C 1 1 3
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L 18PDM201L 18PDM202L 18PDM204L 18PDM301L 18PDM301L 18PDM301L 18PDM301L 18PDM301L 18PDM301L 18PDM301L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills Entrepreneurship Management Constitution of India Value Education	3 3 3 3 3 5 1 1 1 0 0	T 0 0 0 0 0 0 0 0	0 0 0 0 P 2 2 2	3 3 3 18 C 0 0	Course Code 18CSP101L 18CSP103L 18CSP104L 18CSP105L 18CSP106L 18CSP106L 18CSP106L 18CSP106L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - III Industrial Training-II Seminar - II Minor Project Internship (4-6 weeks) Project	Hou L 0 0 0	0 0 0 T 0	0 P 2 2 6	3 12 C 1 1
18CSE490T 18CSE484T 18CSE491T 18CSE491T Code 18PDM101L 18PDM201L 18PDM203L 18PDM301L 18PDM301L 18PDM301L 18LEM101T 18LEM101T 18LEM101J 18GNM101L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M) Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills Entrepreneurship Management Constitution of India Value Education Physical and Mental Health using Yoga	3 3 3 3 3 4 0 0 0 1 1	T 0 0 0 0 0 0 0	0 0 0 0 P 2 2 2 2 0 1	3 3 3 18 C 0 0 0	Course Code 18CSP101L 18CSP102L 18CSP103L 18CSP105L 18CSP105L 18CSP106L 18CSP106L 18CSP106L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II Industrial Training-II Seminar - II Minor Project Internship (4-6 weeks) Project Semester Internship Total Learning Credits	Hou L 0 0 0	0 0 0 T 0	0 P 2 2 6	3 12 C 1 1 3
18CSE490T 18CSE484T 18CSE491T 18CSE491T Code 18PDM101L 18PDM203L 18PDM204L 18PDM301L 18PDM302L 18LEM101T 18LEM101T 18LEM101T 18LEM101T 18LEM101T 18GNM101L 18GNM101L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M) Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills Entrepreneurship Management Constitution of India Value Education Physical and Mental Health using Yoga NSS	3 3 3 3 3 4 0 0 0 1 1	T 0 0 0 0 0 0 0 0	0 0 0 0 2 2 2 2 0 1 2	3 3 3 18 C 0 0 0	Course Code 18CSP101L 18CSP103L 18CSP104L 18CSP105L 18CSP105L 18CSP107L 18CSP107L 18CSP109L 18CSP109L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title  Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II Industrial Training-II Seminar - II Minor Project Internship (4-6 weeks) Project Semester Internship  Total Learning Credits  8. Mandatory Courses (M)	Hou L 0	0 0 0	0 /eek P 2 2 6 20	3 12 C 1 1 3
18CSE490T 18CSE484T 18CSE491T 18CSE491T Code 18PDM101L 18PDM201L 18PDM204L 18PDM204L 18PDM301L 1	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills Entrepreneurship Management Constitution of India Value Education Physical and Mental Health using Yoga NSS NCC	3 3 3 3 3 5 1 1 0 0 0 1 1 1 0	0 0 0 0	0 0 0 0 P 2 2 2 2 0 1	3 3 3 18 18 0 0 0	Course Code 18CSP101L 18CSP101L 18CSP103L 18CSP105L 18CSP106L 18CSP106L 18CSP109L 18CSP109L 18CSP109L Course	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II Industrial Training-II Seminar - II Minor Project Internship (4-6 weeks) Project Semester Internship  Total Learning Credits  8. Mandatory Courses (M) Course	Hou L 0 0 0 0	0 0 0 T 0 0	0 /eek P 2 2 6 20	3 12 C 1 1 3 10 15
18CSE490T 18CSE484T 18CSE491T 18CSE491T Code 18PDM101L 18PDM201L 18PDM202L 18PDM204L 18PDM301L 1	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills Entrepreneurship Management Constitution of India Value Education Physical and Mental Health using Yoga NSS NCC	3 3 3 3 3 5 1 1 0 0 0 1 1 1 0	0 0 0 0	0 0 0 0 2 2 2 2 0 1 2	3 3 3 18 18 0 0 0	Course Code 18CSP101L 18CSP102L 18CSP105L 18CSP105L 18CSP106L 18CSP108L 18CSP109L 18CSP109L Course Code	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II Industrial Training-II Seminar - II Minor Project Internship (4-6 weeks) Project Semester Internship  Total Learning Credits  8. Mandatory Courses (M)  Course Title	Hou L 0 -0 -0	0 0 0 T 0 0 0	0  /eek  P   2  2  6  20  /eek  P	3 12 C 1 1 3 10 15
18CSE490T 18CSE484T 18CSE491T Code 18PDM101L 18PDM201L 18PDM202L 18PDM204L 18PDM301L	Big Data Visualization Deep Learning Machine Learning – II  Total Learning Credits  8. Mandatory Courses (M)  Course Title Professional Skills and Practices Competencies in Social Skills Entrepreneurial Skill Development Critical and Creative Thinking Skills Business Basics for Entrepreneurs Analytical and Logical Thinking Skills Entrepreneurship Management Constitution of India Value Education Physical and Mental Health using Yoga NSS NCC NSO	3 3 3 3 3 3 5 1 1 0 0 0	T 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 2 2 2 2 2 2 2 2	3 3 3 18 C 0 0 0 0 0 0	Course Code 18CSP101L 18CSP103L 18CSP105L 18CSP105L 18CSP106L 18CSP107L 18CSP109L	Data Analysis using Open Source Tool  IOS Development  Total Learning Credits  7. Project Work, Seminar, Internship In Industry / Higher Technical Institutions (P)  Course Title Massive Open Online Course - I Industrial Training-I Seminar - I Massive Open Online Course - II Industrial Training-II Seminar - II Minor Project Internship (4-6 weeks) Project Semester Internship  Total Learning Credits  8. Mandatory Courses (M) Course	Hou L 0 0 0 0	0 0 0 T 0 0	0 /eek P 2 2 6 20	3 12 C 1 1 3 10 15

## 13. (f) Program Articulation: B.Tech. in Computer Science and Engineering with Specialization in Big Data Analytics

				Р	rog	ram	Lea	arni	ng (	Outo	com	es (	PLO	<b>D</b> )		
						Grad	uate	Attrib	outes						PSO	
Course Code	Course Name	Engineering Knowledge	Problem Analysis	Design & Development	Analysis, Design, Research	Modern Tool Usage	Society & Culture	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO - 1	PSO - 2	PSO - 3
	Programming for Problem Solving	Н	Н	М	М	Н	L	L	М	Н	М	L	Н	L	Н	Н
	Data Structures and Algorithms	Н	Н	Н	Н	М	L	L	М	Н	М	М	Н	L	Н	Н
18CSC202J	Object Oriented Design and Programming	Н	Н	Н	Н	Н	М	L	М	Н	Н	М	Н	L	Н	Н
18CSC203J	Computer Organization and Architecture	Н	М	Н	М	L	L	L	М	L	L	L	М	Н	М	М
18CSC204J	Design and Analysis of Algorithms	Н	Н	Н	Н	М	М	L	М	М	М	М	Н	L	Н	Н
	Operating Systems	Н	Н	Н	Н	Н	М	L	М	Н	М	М	Н	Н	Н	М
	Software Engineering and Project Management	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	1	Н	М
	Advanced Programming Practice	Н	Н	М	М	Н	L	L	М	Н	М	L	Н.	L	Н	Н
	Formal Language and Automata	Н	Н	Н	Н	L	L	L	L	М	М	L	H	Н	Н	Н
	Computer Networks	Н	Н	Н	Н	Н	М	L	М	Н	M	М	Н	Н	Н	М
	Database Management Systems	Н	Н	Н	Н	Н	М	L	M	Н	M	M	Н	Н	Н	M
	Compiler Design	Н	Н	Н	Н	М	L	L	L	М	M	L	H	Н	Н	Н
	Artificial Intelligence	Н	Н	Н	Н	M	М	L	L	M	М	L	Н	Н	Н	Н
	Competitive Professional Skills-I	Н	Н	Н	Н	Н	L	L	М	Н	Н	М	Н	Н	Н	Н
	Competitive Professional Skills-II	Н	Н	Н	Н	Н	L	L	М	Н	Н	М	Н	Н	Н	Н
	Competitive Professional Skills-III	Н	Н	Н	Н	Н	L	L	М	Н	Н	М	Н	Н	Н	Н
	Big Data Tools and Techniques	Н	Н	Н	Н	Н	<u>-</u>	Н	Н	Н	Н	Н	Н	Н	Н	Н
	Data Mining and Analytics	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
	Machine Learning - I	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	М	Н	Н	Н	Н
	Information Storage and Management	Н	Н	Н	Н	М	Н	Н	М	Н	М	Н	Н	Н	М	Н
18CSE393T	Text Mining	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
18CSE394T	Business Intelligence and Analytics	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
18CSE395T	Web Intelligence	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	М	Н	Н	Н	Н
	Data Science	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
18CSE455T	Database Security and Privacy	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
	Data Warehousing and its Applications	Н	Н	М	Н	Н	Н	Н	М	Н	М	Н	Н	Н	М	Н
	Functional Programming	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
	Streaming Analytics	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
	Big Data Visualization	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
	Deep Learning	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
	Machine Learning – II	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н	Н
	Massive Open Online Course - I	Н	М	М	М	М	М	М	М	Н	Н	Н	М	Н	Н	Н
18CSP102L	Industrial Training-I	Н	М	М	М	М	М	М	М	Н	Н	Н	М	Н	Н	Н
18CSP103L		Н	М	М	М	М	М	М	М	Н	Н	Н	М	Н	Н	Н
18CSP104L	Massive Open Online Course - II	Н	М	М	М	М	М	М	М	Н	Н	Н	М	Н	Н	Н
18CSP105L	Industrial Training-II	Н	М	М	М	М	М	М	М	Н	Н	Н	М	Н	Н	Н
	Seminar - II	Н	М	М	М	М	М	М	М	Н	Н	Н	М	Н	Н	Н
18CSP107L	Minor Project	.H	Н	Н	Н	Н	М	М	Н	Н	Н	Н	Н	Н	М	М
18CSP108I	Internship (4-6 weeks)	Н	Н	Н	Н	Н	М	М	Н	Н	Н	Н	Н	Н	М	М
	Project Project	Н	Н	Н	Н	Н	М	М	Н	Н	Н	Н	Н	Н	М	М
18CSP110L	Semester Internship	Н	Н	Н	Н	Н	M	М	Н	Н	Н	Н	Н	Н	M	M
10001 110L		Н														
	Program Average	Н	Н	М	Н	М	L	М	L	М	М	М	Н	М	Μ	М

## 13. (g) Implementation Plan: B.Tech. in Computer Science and Engineering with Specialization in Big Data Analytics

	Semester - I						Semester - II				
Code	Course Title	Hou	ırs/V	Veek P	С	Code	Course Title	Hou	ırs/ V	/eek	С
18LEH101J	Fnalish	2	0	2	3	18I FH10X.I	Chinese / French / German / Japanese/ Korean	2	0	2	3
	Calculus and Linear Algebra	3	1	0	4	18MAB102T	Advanced Calculus and Complex Analysis	3	1	0	4
	Physics: Semiconductor Physics	3	1	2	5	18CYB101J		3	1	2	5
	Engineering Graphics and Design	1	0	4	3		Programming for Problem Solving	3	0	4	5
	Basic Electrical and Electronics Engineering	3	1	2	5		Civil and Mechanical Engineering Workshop	1	0	4	3
	Professional Skills and Practices	0	0	2	0		General Aptitude	0	0	2	1
	Constitution of India	1	0	0	0		Value Education	1	0	1	0
18GNM101L	Physical and Mental Health using Yoga	0	0	2	0	18GNM102L	NSS				
	Total Learning Credit	s			20	18GNM103L		0	0	2	0
						18GNM104L					
							Total Learning Credits				2
	Semester - III						Semester - IV				
Code	Course Title		ırs/ V		С	Code	Course Title		ırs/ V		С
		L	T	Р				L	T	Р	
	Transforms and Boundary Value Problems	3	1	0	4		Probability and Queueing Theory	3	1	0	3
18BTB101T		3	0	0	2		Computer Communications	2	0	2	4
100000011	Analog and Digital Electronics		0	2	4		Design and Analysis of Algorithms	3	0	2	4
180502011	Data Structures and Algorithms Object Oriented Design and Programming	3	0	2	4		Operating Systems	3	0	2	4
	Computer Organization and Architecture	3	0	2	4	18CSC206J	Software Engineering and Project Management	3	0	2	4
	Management Principles for Engineers	2	0	0	2	180000071	Advanced Programming Practice	3	0	2	4
	Competencies in Social Skills					180502073	Competitive Professional Skills-I	0	0	2	1
	Entrepreneurial Skill Development	0	0	2	0		Social Engineering	2	0	0	2
OFDIVIZUOL	Total Learning Credit				24		Critical and Creative Thinking Skills				
	I Olai Leaiiiilu Creuil	5						0	0	2	C
					27	1000112041					
							Business Basics for Entrepreneurs	1	0	Λ	^
				3			Business Basics for Entrepreneurs Environmental Science Total Learning Credits	1	0	0	
Ħ				3			Environmental Science	1			26
Code		Нос	ırs/ V				Environmental Science Total Learning Credits	1 Hou	ırs/ W	/eek	20
	Semester - V Course Title	Hou	T	Р	С	18CYM101T	Environmental Science Total Learning Credits  Semester - VI  Course Title	L	ırs/ W	/eek	2(C
18MAB302T	Semester - V  Course Title  Discrete Mathematics for Engineers	Hou L	T 1	P 0	C 4	18CYM101T  Code 18CSC303J	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems	L 3	Irs/ W	/eek	20 C
18MAB302T 18CSC301T	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata	Hou L 3	T 1	P 0	C 4 3	18CYM101T  Code  18CSC303J 18CSC304J	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design	3 3	T 0 0	/eek	C 4
18MAB302T 18CSC301T 18CSC302J	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks	Hou L 3 3 3	T 1 0	P 0 0 2	C 4 3 4	Code  18CSC303J 18CSC304J 18CSC305J	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence	3 3 3	T 0 0 0	/eek P 2 2 2 2	C 4 4 4
18MAB302T 18CSC301T 18CSC302J 18CSC306L	Semester - V Course Title Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II	Hou L 3 3 3	T 1 0 0	P 0 0 2 2	C 4 3 4 1	Code  18CSC303J 18CSC305J 18CSC305J 18CSC350T	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension	3 3 3 0	T 0 0 0 1	/eek P 2 2 2	C 4 4 4 1
18MAB302T 18CSC301T 18CSC302J 18CSC306L	Semester - V  Course Title  Discrete Mathematics Formal Language and Automata  Computer Networks  Competitive Professional Skills-II  Professional Elective – 1	Hou L 3 3 3 0	T 1 0 0 0	P 0 0 2 2 0	C 4 3 4 1 3 3	Code  18CSC303J 18CSC305J 18CSC305J 18CSC350T	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III	L 3 3 0 0	T 0 0 0 1 1 0	/eek P 2 2 0 2	CC 44 44 11 11 11
18MAB302T 18CSC301T 18CSC302J 18CSC306L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2	Hou L 3 3 3 0 0 3	T 1 0 0 0 0	P 0 0 2 2 0 0 0	C 4 3 4 1 3 3 3	Code  18CSC303J 18CSC305J 18CSC305J 18CSC350T 18CSC307L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective – 3	L 3 3 3 0 0 0 3	T 0 0 0 0 1 1 0 0 0	/eek P 2 2 0 2 0	CC 44 44 44 11 13 33
18MAB302T 18CSC301T 18CSC302J 18CSC306L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1	Hou L 3 3 3 0	T 1 0 0 0	P 0 0 2 2 0	C 4 3 4 1 3 3	Code  18CSC303J 18CSC305J 18CSC305J 18CSC350T 18CSC307L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4	L 3 3 0 0 0 3 3	T 0 0 0 1 1 0 0 0 0 0	/eek P 2 2 2 0 0 0 0	CC 44 44 11 11 33 33
18MAB302T 18CSC301T 18CSC302J 18CSC306L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I	Hou L 3 3 3 0 0 3 3 3 3 3	T 1 0 0 0 0 0	P 0 0 2 2 2 0 0 0 0	C 4 3 4 1 3 3 3 3 3	Code 18CSC303J 18CSC304J 18CSC305J 18CSC307L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2	L 3 3 3 0 0 0 3	T 0 0 0 0 1 1 0 0 0	/eek P 2 2 0 2 0	20 44 44 11 13 33
18MAB302T 18CSC301T 18CSC302J 18CSC306L 18CSP101L 18CSP102L	Semester - V Course Title Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I	Hou L 3 3 3 0 0 3	T 1 0 0 0 0	P 0 0 2 2 0 0 0	C 4 3 4 1 3 3 3	Code 18CSC303J 18CSC304J 18CSC305J 18CSC307L 18CSC307L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2 Massive Open Online Course - II	L 3 3 0 0 0 3 3 3	T 0 0 0 0 1 1 0 0 0 0 0 0 0 0 0 0 0 0 0	/eek P 2 2 0 0 0 0	20 44 44 11 13 33
18MAB302T 18CSC301T 18CSC302J 18CSC306L 18CSP101L 18CSP102L 18CSP103L	Semester - V  Course Title  Discrete Mathematics for Engineers  Formal Language and Automata  Computer Networks  Competitive Professional Skills-II  Professional Elective – 1  Professional Elective – 2  Open Elective – 1  Massive Open Online Course - I  Industrial Training-I  Seminar - I	Hou L 3 3 3 0 0 3 3 3 3 3	T 1 0 0 0 0 0	P 0 0 2 2 2 0 0 0 0	C 4 3 4 1 3 3 3 3 3	Code 18CSC303J 18CSC304J 18CSC305J 18CSC307L 18CSC307L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective – 3 Professional Elective – 4 Open Elective – 2 Massive Open Online Course - II Industrial Training-II	L 3 3 0 0 0 3 3	T 0 0 0 1 1 0 0 0 0 0	/eek P 2 2 2 0 0 0 0	CC 44 44 44 11 13 33
18MAB302T 18CSC301T 18CSC302J 18CSC306L 18CSP101L 18CSP102L 18CSP103L 18CSP103L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills	Hou L 3 3 3 0 0 3 3 3 3 3	T 1 0 0 0 0 0	P 0 0 2 2 2 0 0 0 0	C 4 3 4 1 3 3 3 3 3	Code  18CSC303J 18CSC304J 18CSC350T 18CSC350T 18CSC37L  18CSP104L 18CSP105L 18CSP106L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2 Massive Open Online Course - II Industrial Training-II Seminar - II	3 3 0 0 0 3 3 3	0 0 0 1 0 0 0	/eek P 2 2 0 0 0 0 2	20 4 4 4 1 1 3 3 3 3
8MAB302T 18CSC301T 18CSC302J 18CSC306L 18CSP101L 18CSP102L 18CSP103L 18PDM301L 18PDM301L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management	Hou L 3 3 3 3 0 0 3 3 3 3 3 0 0	T 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 2 2 0 0 0	C 4 4 3 4 1 1 3 3 3 3 3 1 1 0 0	Code  18CSC303J 18CSC304J 18CSC305J 18CSC305J 18CSC307L  18CSP104L 18CSP105L 18CSP106L 18CPD106L 18CPD106L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective – 3 Professional Elective – 4 Open Elective – 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices	3 3 0 0 3 3 3 3 0 0	T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Veek P 2 2 2 0 0 0 0 0 2 2 2 2 2 2 2 2 2 2 2	CC 44 44 11 11 33 33 31 11 11
8MAB302T 8CSC301T 18CSC302J 8CSC306L 18CSP101L 18CSP102L 18CSP103L 8PDM301L 8PDM302L	Semester - V Course Title Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge	Hou L 3 3 3 0 0 3 3 3 3 0 0	T 1 0 0 0 0 0	P 0 0 2 2 0 0 0	C C 4 3 3 4 1 1 3 3 3 3 1 1 0 0 0 0	Code  18CSC303J 18CSC304J 18CSC305J 18CSC305J 18CSC307L  18CSP104L 18CSP105L 18CSP106L 18CPD106L 18CPD106L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective – 3 Professional Elective – 4 Open Elective – 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form	3 3 0 0 0 3 3 3	0 0 0 1 0 0 0	/eek P 2 2 0 0 0 0 2	20 44 44 11 13 33 33 11
8MAB302T 8CSC301T 18CSC302J 8CSC306L 18CSP101L 18CSP102L 18CSP103L 8PDM301L 8PDM302L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management	Hou L 3 3 3 0 0 3 3 3 3 0 0	T 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 2 2 0 0 0	C 4 4 3 4 1 1 3 3 3 3 3 1 1 0 0	Code  18CSC303J 18CSC304J 18CSC305J 18CSC305J 18CSC307L  18CSP104L 18CSP105L 18CSP106L 18CPD106L 18CPD106L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective – 3 Professional Elective – 4 Open Elective – 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices	3 3 0 0 3 3 3 3 0 0	T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Veek P 2 2 2 0 0 0 0 0 2 2 2 2 2 2 2 2 2 2 2	20 44 44 11 13 33 33 11
18MAB302T 18CSC301T 18CSC302J 18CSC306L 18CSP101L 18CSP102L 18CSP103L 18PDM301L 18PDM301L	Semester - V Course Title Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge Total Learning Credit	Hou L 3 3 3 0 0 3 3 3 3 0 0	T 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 2 2 0 0 0	C C 4 3 3 4 1 1 3 3 3 3 1 1 0 0 0 0	Code  18CSC303J 18CSC304J 18CSC305J 18CSC305J 18CSC307L  18CSP104L 18CSP105L 18CSP106L 18CPD106L 18CPD106L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective – 3 Professional Elective – 4 Open Elective – 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form Total Learning Credits	3 3 0 0 3 3 3 3 0 0	T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Veek P 2 2 2 0 0 0 0 0 2 2 2 2 2 2 2 2 2 2 2	20 4 4 4 1 1 3 3 3 3
18CSC306L 18CSC306L 18CSC306L 18CSP101L 18CSP103L 18CSP103L 18CSP103L 18PDM301L 18PDM301L 18PDM301L	Semester - V Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective - 1 Professional Elective - 2 Open Elective - 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge Total Learning Credit  Semester - VII	Hot L 3 3 3 3 3 0 0 3 3 3 3 3 0 0 0 1 1 s	T 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 0 2 2 0 0 0 0 0 2 2 2 0 0 0 0 0 0	C 4 3 4 4 1 1 3 3 3 3 3 1 1 0 0 22	Code 18CSC303J 18CSC304J 18CSC305J 18CSC307L 18CSC307L 18CSP104L 18CSP106L 18CSP106L 18PDH201T 18LEM110L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form  Total Learning Credits	L 3 3 3 0 0 0 3 3 3 3 0 0 0 0	0 0 0 0 0 0 0 0	Veek P 2 2 2 0 0 0 0 0 2 2 2 2 2	20 44 44 11 13 33 33 11 11 00 25
18MAB302T 18CSC301T 18CSC302J 18CSC306L 18CSP101L 18CSP102L 18CSP103L 18PDM301L 18PDM301L	Semester - V Course Title Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge Total Learning Credit	Hot L 3 3 3 3 3 0 0 3 3 3 3 3 0 0 0 1 1 s	T 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 0 2 2 0 0 0 0 0 2 2 2 0 0 0 0 0 0	C C 4 3 3 4 1 1 3 3 3 3 1 1 0 0 0 0	Code  18CSC303J 18CSC304J 18CSC305J 18CSC305J 18CSC307L  18CSP104L 18CSP105L 18CSP106L 18CPD106L 18CPD106L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective – 3 Professional Elective – 4 Open Elective – 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form Total Learning Credits	L 3 3 3 0 0 0 3 3 3 3 0 0 0 0	T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Veek P 2 2 2 0 0 0 0 0 2 2 2 2 2	20 44 44 11 13 33 33 11
18MAB302T 18CSC301T 18CSC302J 18CSC306L 18CSP101L 18CSP102L 18CSP103L 18PDM301L 18PDM301L 18PDM301L 18LEM109T	Semester - V Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective - 1 Professional Elective - 2 Open Elective - 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge Total Learning Credit  Semester - VII	Hot L 3 3 3 3 3 0 0 3 3 3 3 3 0 0 0 1 1 s	T 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 0 2 2 0 0 0 0 2 2 2 0 0 0 0 0 0 0	C 4 3 4 4 1 1 3 3 3 3 3 1 1 0 0 22	Code 18CSC303J 18CSC305J 18CSC305J 18CSC307L 18CSP104L 18CSP105L 18CSP106L 18PDH201T 18LEM110L  Code 18CSP109L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form  Total Learning Credits  Semester - VIII  Course Title	L 3 3 3 0 0 0 3 3 3 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 Trs/ W	/eek P 2 2 0 0 0 0 2 2 2 /eek	20 44 44 11 13 33 33 11 11 00 21
18CSC306L 18CSC306L 18CSC306L 18CSP101L 18CSP103L 18CSP103L 18CSP103L 18PDM301L 18PDM301L 18PDM301L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata  Computer Networks  Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge  Total Learning Credit  Semester - VII  Course Title	Hou L  3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 0 2 2 0 0 0 0 2 2 0 0 0 0 0 0 0 0	C C 4 4 3 4 4 1 1 3 3 3 3 1 1 0 0 22 C C	Code 18CSC303J 18CSC305J 18CSC305J 18CSC307L 18CSP104L 18CSP105L 18CSP106L 18PDH201T 18LEM110L  Code 18CSP109L	Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form  Total Learning Credits  Semester - VIII Course Title	L 3 3 3 0 0 0 3 3 3 3 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	/eek P 2 2 2 0 0 0 0 0 2 2 2 2 2	20 44 44 11 13 33 33 11 11 00 25
8MAB302T 8CSC301T 8CSC302J 8CSC306L 8CSC306L 8CSP101L 8CSP103L 8CSP103L 8PDM301L 8PDM301L 8PDM301L 8PDM301L	Semester - V Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective - 1 Professional Elective - 2 Open Elective - 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge Total Learning Credit  Semester - VII Course Title Professional Elective - 5	Hou L 3 3 3 3 3 0 0 3 3 3 3 0 0 1 1 s	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 0 2 2 0 0 0 0 2 2 0 0 0 0 0 0 0 0	C C 4 3 4 4 1 1 3 3 3 3 1 1 0 0 0 22 C C 3	Code 18CSC303J 18CSC305J 18CSC305J 18CSC307L 18CSP104L 18CSP105L 18CSP106L 18PDH201T 18LEM110L  Code 18CSP109L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form  Total Learning Credits  Semester - VIII  Course Title	L 3 3 3 0 0 0 3 3 3 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 Trs/ W	/eek P 2 2 0 0 0 0 2 2 2 /eek	2 4 4 4 4 1 1 1 3 3 3 3 3 3 3 3 3 3 3 3 3
8MAB302T 8CSC301T 8CSC302J 8CSC306L 8CSC306L 8CSP101L 8CSP102L 8CSP103L 8PDM301L 8PDM301L 8PDM301L 8PDM301L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge Total Learning Credit  Semester - VII  Course Title  Professional Elective – 5 Professional Elective – 6 Open Elective – 3 Minor Project	Hot L 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 0 0 0 0 0 0 0 0	P 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	C C 4 3 4 4 1 1 3 3 3 3 1 1 0 0 0 22 C C 3 3 3 3 3 3	Code 18CSC303J 18CSC305J 18CSC305J 18CSC307L 18CSP104L 18CSP105L 18CSP106L 18PDH201T 18LEM110L  Code 18CSP109L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form  Total Learning Credits  Semester - VIII  Course Title	L 3 3 3 0 0 0 3 3 3 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 Trs/ W	/eek P 2 2 0 0 0 0 2 2 2 /eek	2
8MAB302T 8CSC301T 8CSC302J 8CSC306L 8CSC306L 8CSP101L 8CSP102L 8CSP103L 8PDM301L 8PDM301L 8PDM301L 8PDM301L	Semester - V  Course Title  Discrete Mathematics for Engineers Formal Language and Automata Computer Networks Competitive Professional Skills-II Professional Elective – 1 Professional Elective – 2 Open Elective – 1 Massive Open Online Course - I Industrial Training-I Seminar - I Analytical and Logical Thinking Skills Entrepreneurship Management Indian Traditional Knowledge Total Learning Credit  Semester - VII  Course Title  Professional Elective – 5 Professional Elective – 6 Open Elective – 3	Hou L 3 3 3 3 0 0 1 1 s	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 0 0 0 2 2 0 0 0 0 2 2 0 0 0 0 0 0 0 0	C C 4 4 3 4 4 1 1 3 3 3 3 1 1 0 0 0 22 C C 3 3 3	Code 18CSC303J 18CSC305J 18CSC305J 18CSC307L 18CSP104L 18CSP105L 18CSP106L 18PDH201T 18LEM110L  Code 18CSP109L	Environmental Science Total Learning Credits  Semester - VI  Course Title  Database Management Systems Compiler Design Artificial Intelligence Comprehension Competitive Professional Skills-III Professional Elective - 3 Professional Elective - 4 Open Elective - 2 Massive Open Online Course - II Industrial Training-II Seminar - II Employability Skills and Practices Indian Art Form  Total Learning Credits  Semester - VIII  Course Title	L 3 3 3 0 0 0 3 3 3 3 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 Trs/ W	/eek P 2 2 0 0 0 0 2 2 2 /eek	2
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