

**2022 admitted batch Scheme**  
**Total Credits**  
**B.Tech. (CSE & CSE-RL)**

Sr. No.	Course Type	Course Code	Course Name	Teaching Scheme			Credits
				L	T	P	
Semester - I			Total Academic Engagement and Credits	13	1	12	20
Semester – II				13	1	12	20
Semester – III				10	3	14	20
Semester – IV				10	4	14	21
Semester – V				14	2	12	22
Semester – VI				13	4	14	24
Semester – VII				10	5	16	23
Semester – VIII				6	-	20	16
Total				89	20	114	166

**Total Credits**  
**B.Tech. (CSE & CSE-RL) [LATERAL ENTRY Students]**

Sr. No.	Course Type	Course Code	Course Name	Teaching Scheme			Credits
				L	T	P	
Semester – III			Total Academic Engagement and Credits	10	3	14	20
Semester – IV				10	4	14	21
Semester – V				14	2	12	22
Semester – VI				13	4	14	24
Semester – VII				10	5	16	23
Semester – VIII				6	-	20	16
Total				63	18	90	126

## COURSE DISTRIBUTION: SEMESTER WISE

COURSE DISTRIBUTION: SEMESTER WISE												
Sr No	Type of Course	Abbreviations	No. of Courses/Semester								Total	
			1	2	3	4	5	6	7	8	Regular	Lateral Entry from SEM III onwards
1	(a) Basic Science Courses	BSC	2	2	1	1	-	-	-	-	8	2
	(b) Basic Science Laboratory Course		1	1	-	-	-	-	-	-		
2	(a) Engineering Science Courses	ESC	4	3	-	-	-	-	-	-	12	0
	(b) Engineering Science Laboratory Courses		3	2	-	-	-	-	-	-		
3	(a) Humanities and Social Sciences including Management Courses	HSMC	-	1	1	1	1	1	-	-	7	4
	(b) Humanities and Social Sciences including Management Laboratory Courses		1	1	-	-	-	-	-	-		
4	(a) Professional Core Courses	PCC	-	-	3	3	4	3	2	-	26	26
	(b) Professional Core Laboratory Courses	LC	-	-	3	3	2	2	1	-		
5	Professional Elective Courses	PEC	-	-	-	-	-	1	2	2	5	5
6	Inter-disciplinary Foundation Courses	IFC	-	-	-	1	1	-	-	-	2	2
7	Skill Based Courses	SBC	1	1	1	1	1	-	-	1	6	4
8	Liberal Learning Courses	LLC	-	1	-	1	-	1	-	-	3	2
9	Inter-disciplinary Open Courses	IOC	-	-	-	-	-	1	1	-	2	2
10	Project/Internship/Seminar	PROJ	-	-	1	-	1	2	2	1	7	7
11	Mandatory Learning Courses	MLC	-	-	1	1	1	1	-	-	4	4
Total			12	12	11	12	11	12	8	4	82	58

## CREDIT DISTRIBUTION: SEMESTER WISE

CREDIT DISTRIBUTION: SEMESTER WISE												
1 Lecture hour = 1 Credit			2 Lab Hours = 1 Credit			1 Tutorial Hour = 1 Credit						
Sr No	Type of Course	Abbreviations	No. of Credits/Semester								Total Credits	
			1	2	3	4	5	6	7	8	Regular	Lateral Entry from SEM III onwards
1	(a) Basic Science Courses	BSC	6	6	3	3	-	-	-	-	20	6
	(b) Basic Science Laboratory Course		1	1	-	-	-	-	-	-		
2	(a) Engineering Science Courses	ESC	8	6	-	-	-	-	-	-	19	0
	(b) Engineering Science Laboratory Courses		3	2	-	-	-	-	-	-		
3	(a) Humanities and Social Sciences including Management Courses	HSMC	-	2	1	1	2	2	-	-	10	6
	(b) Humanities and Social Sciences including Management Laboratory Courses		1	1	-	-	-	-	-	-		
4	(a) Professional Core Courses	PCC	-	-	9	9	12	9	6	-	58	58
	(a) Professional Core Laboratory Courses	LC	-	-	4	3	3	2	1	-		
5	Professional Elective Courses	PEC	-	-	-	-	-	3	6	6	15	15
6	Inter-disciplinary Foundation Courses	IFC	-	-	-	2	2	-	-	-	4	4
7	Skill Based Courses	SBC	1	1	2	2	1	-	-	2	9	7
8	Liberal Learning Courses	LLC	-	1	-	1	-	1	-	-	3	2
9	Inter-disciplinary Open Courses	IOC	-	-	-	-	-	3	3	-	6	6
10	Project/Internship/Seminar	PROJ	-	-	1	-	2	4	7	8	22	22
11	Mandatory Learning Courses	MLC	-	-	-	-	-	-	-	-	Audit	Audit
Total			20	20	20	21	22	24	23	16	166	126

## Course and Credit Distribution

Sr. No.	Type of Course	Abbreviation	REGULAR		LATERAL ENTRY From SEM III onwards	
			No. of Courses	Total credits	No. of Courses	Total credits
1.	(a) Basic Science Courses	BSC	8	20	2	6
	(b) Basic Science Laboratory Course					
2.	(a) Engineering Science Courses	ESC	12	19	0	0
	(b) Engineering Science Laboratory Courses					
3.	(a) Humanities and Social Sciences including Management Courses	HSMC	7	10	4	6
	(b) Humanities and Social Sciences including Management Laboratory Courses					
4.	(a) Professional Core Courses	PCC	26	58	26	58
	(b) Professional Core Laboratory Courses	LC				
5.	Professional Elective Courses	PEC	5	15	5	15
6.	Inter-disciplinary Foundation Courses	IFC	2	4	2	4
7.	Skill Based Courses	SBC	6	9	4	7
8.	Liberal Learning Courses	LLC	3	3	2	2
9.	Inter-disciplinary Open Courses	IOC	2	6	2	6
10.	Project/Internship/Seminar	PROJ	7	22	7	22
11.	Mandatory Learning Courses	MLC	4	Audit	4	Audit
Total			82	166	58	126

### Semester-I

S.No.	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	BSC	MA01	Linear Algebra	2	1	-	3
2	BSC	PY01	Optics & Modern Physics	3	-	-	3
3	ESC	ME01	Engineering Graphics & Visualization	2	-	-	2
4	ESC	CE01	Basic Civil Engineering	2	-	-	2
5	ESC	EC01	Basic Electronics Engineering	2	-	-	2
6	ESC	CS01	Programming for Problem Solving	2	-	-	2
7	BSC	PY01(P)	Optics & Modern Physics Lab	-	-	2	1
8	ESC	ME01(P)	Engineering Graphics Lab	-	-	2	1
9	ESC	CE01(P)	Basic Civil Engineering Lab	-	-	2	1
10	ESC	CS01(P)	Programming for Problem Solving Lab	-	-	2	1
11	SBC	EC01(P)	Electronics and Computer Workshop	-	-	2	1
12	LLC	LLC01	Liberal Learning Course-I	Credits to be added in Second Semester			
13	HSMC	HS01	Design Thinking	-	-	2	1
Total Credits							20

**Note:**

- **Liberal Learning Course-II, LLC-01 (Any One Course from NCC/NSO/NCA)**
  - A. NCC
  - B. NSO
    - Anyone Sports at State Level
  - C. NCA
    - Music
    - Dance
    - Photography
    - Cinematography
    - Interior Design
    - Podcasting
    - Theatre
    - Painting etc.

## Semester-II

S.No.	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	BSC	MA02	Calculus	2	1	-	3
2	BSC	CH01	Applied Chemistry	3	-	-	3
3	ESC	ME02	Fundamentals of Mechanical Engineering	2	-	-	2
4	ESC	CE02	Engineering Mechanics	2	-	-	2
5	ESC	EE01	Basic Electrical Engineering	2	-	-	2
6	HSMC	HS02	English	2	-	-	2
7	BSC	CH01(P)	Applied Chemistry Lab	-	-	2	1
8	ESC	CE02(P)	Engineering Mechanics Lab	-	-	2	1
9	ESC	EE01(P)	Basic Electrical Engineering Lab	-	-	2	1
10	HSMC	HS02(P)	Language Lab	-	-	2	1
11	LLC	LLC01	Liberal Learning Course-I	-	-	2	1
12	SBC	ME01(P)	Tech. Shop Lab	-	-	2	1
Total Credits							20

**Note:**

- **Liberal Learning Course-II, LLC-01 (Any One Course from NCC/NSO/NCA)**
  - D. NCC**
  - E. NSO**
    - Anyone Sports at State Level
  - F. NCA**
    - Music
    - Dance
    - Photography
    - Cinematography
    - Interior Design
    - Podcasting
    - Theatre
    - Painting etc.

### Semester-III

S.No.	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	BSC	MA03	Probability and Statistics	2	1	-	3
2	PCC	CS01	Data Communication	3	-	-	3
3	PCC	CS02	Data Structure and Algorithm	2	1	-	3
4	PCC	CS03	Computer Organization and Architecture	2	1	-	3
5	HSMC	HS04	Entrepreneurship and Principles of Management	1	-	-	1
6	LC	CS01(P)	Data Communication Lab	-	-	2	1
7	LC	CS02(P)	Data Structure and Algorithm Lab	-	-	4	2
8	LC	CS03(P)	Computer Organization and Architecture Lab	-	-	2	1
9	SBC	CS01(P)	Programming Practices (C++)	-	-	4	2
10	PROJ	CS01	Seminar	-	-	2	1
11	LLC	LLC02	Liberal Learning Course –II	Credits to be added in Fourth Semester			
12	MLC	MLC01	Professional Laws, Ethics, Gender, Human Values and Harmony	1	-	-	Audit
Total Credits							20

**Note:**

- **Liberal Learning Course-II, LLC-01 (Any One Course from NCC/NSO/NCA)**
  - G. NCC**
  - H. NSO**
    - Anyone Sports at State Level
  - I. NCA**
    - Music
    - Dance
    - Photography
    - Cinematography
    - Interior Design
    - Podcasting
    - Theatre
    - Painting etc.

## Semester-IV

S.No.	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	BSC	MA04	Discrete Structure	2	1	-	3
2	PCC	CS04	Computer Network	2	1	-	3
3	PCC	CS05	Analysis and Design of Algorithm	2	1	-	3
4	PCC	CS06	Object Oriented Programming And Methodology	2	1	-	3
5	HSMC	HS03	Innovation and Creativity	-	-	2	1
6	IFC	CB01	Interdisciplinary Foundation Course-I	2	-	-	2
7	LC	CS04(P)	Computer Network Lab	-	-	2	1
8	LC	CS05(P)	Analysis and Design of Algorithm Lab	-	-	2	1
9	LC	CS06(P)	Object Oriented Programming And Methodology Lab	-	-	2	1
10	SBC	CS02(P)	Programming in Python	-	-	4	2
11	LLC	LLC02	Liberal Learning Course –II	-	-	2	1
12	MLC	MLC02	Constitution of India	1	-	-	Audit
Total Credits							21

- **Liberal Learning Course-II, LLC02(Any One Course from NCC/NSO/NCA)**

- **NCC**
- **NSO**  
Anyone Sports at State Level
- **NCA**
  - Music
  - Dance
  - Photography
  - Cinematography
  - Interior Design
  - Podcasting
  - Theatre
  - Painting, etc.

- **Interdisciplinary Foundation Course (IFC)-I, CB01**

(Offered by Cyber Security, IoT including Blockchain Technology Branch)

- **Blockchain Technology**



## Semester–V

S.No .	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	PCC	CS07	Database Management System	2	1	-	3
2	PCC	CS08	Operating System	2	1	-	3
3	PCC	CS09	Theory of Computation	3	-	-	3
4	PCC	CS10	Software Engineering & Project Management	3	-	-	3
5	HSMC	HS06	Humanities and Social Sciences Open Courses - II	2	-	-	2
6	IFC	EC01	Interdisciplinary Foundation Course-II	2	-	-	2
7	LC	CS07(P)	Database Management System Lab	-	-	4	2
8	LC	CS08(P)	Operating System Lab	-	-	2	1
9	SBC	CS03(P)	Web Development Technologies	-	-	2	1
10	PROJ	CS02	Mini Project	–	–	4	2
11	PROJ	-	Internship-I	Credits to be added in Sixth Semester			
12	LLC	LLC03	Liberal Learning Course -III	Credits to be added in Sixth Semester			
13	MLC	MLC03	Environmental Studies	1	-	-	Audit
Total Credits							22

<b>Humanities and Social Sciences Open Courses</b> <b>HSMC) – II, HS06 (Any One Course)</b>
<b>(A) Industrial Safety Psychology</b>
<b>(B) Project Management</b>
<b>(C) Business Communication</b>

### Interdisciplinary Foundation Course (IFC)-II, EC01

(Offered by Electronics & Communication Department)

#### ➤ Sensors and Automation

### Liberal Learning Course-III, LLC03 (Any One Course from NCC/NSO/NCA)

**Note:** pool of choices will be the same as in LLC01 and LLC02.

## Semester-VI

S.No.	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	PCC	CS11	Internet of Things (IoT)	2	1	-	3
2	PCC	CS12	Foundation of Artificial Intelligence and Machine Learning	2	1	-	3
3	PCC	CS13	Compiler Design	2	1	-	3
4	PEC	CS01	Professional Elective Course-I	3	-	-	3
5	HSMC	HS05	Humanities and Social Sciences Open Courses - I	2	-	-	2
6	IOC	--	Interdisciplinary Open Course-I	2	1	-	3
7	LC	CS11(P)	Internet of Things (IoT) Lab	-	-	2	1
8	LC	CS12(P)	Foundation of Artificial Intelligence and Machine Learning Lab	-	-	2	1
9	PROJ	CS03	Project-I	-	-	4	2
10	PROJ	CS04	Evaluation of Internship-I	-	-	4	2
11	PROJ	–	Internship-II	Credits to be added in Seventh Semester			
12	LLC	LLC03	Liberal Learning Course -III	-	-	2	1
13	MLC	MLC04	Intellectual Property Rights	1	-	-	Audit
Total Credits							24

Professional Elective Course (PEC)–I, CS01(Any One Course)	Interdisciplinary Open Course (IOC)-I, (Any One Course)	Humanities and Social Sciences Open Courses – I, HS05 (Any One Course)
(A) Information Theory & Coding	MA01(A) Scientific Aptitude	(A) English Language Proficiency
(B) Cloud Computing	FT (A) Fundamentals of Fire and Safety	(B) German Language
(C) Computer Graphics & Multimedia	Operation Research	(C) French Language
(D) Advanced Computer Architecture	Green Technology	(D) Japanese Language
		(E) Soft Skills and Interpersonal Communication

**Liberal Learning Course-III, LLC03(Any One Course from NCC/NSO/NCA)**

**Note: pool of choices will be the same as in LLC01 and LLC02.**

## Semester VII

S.No.	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	PCC	CS14	Data Science	2	1	-	3
2	PCC	CS15	Cryptography and Network Security	2	1	-	3
3	PEC	CS02	Professional Elective Course-II	2	1	-	3
4	PEC	CS03	Professional Elective Course-III	2	1	-	3
5	IOC	-	Interdisciplinary Open Course-II	2	1	-	3
6	LC	CS14(P)	Data Science Lab	-	-	2	1
7	PROJ	CS05	Project -II	-	-	8	4
8	PROJ	CS06	Evaluation of Internship-II	-	-	6	3
Total Credits							23

Professional Elective Course (PEC)–II, CS02(Any One Course)	Professional Elective Course (PEC)–III, CS03 (Any One Course)	Interdisciplinary Open Course IOC-II, (Any One Course)
(A)Mobile Application Development	(A)Wireless & Mobile Computing	CL01 Information Storage Management
(B) Natural Language Processing	(B)Pattern Recognition	FT (B) Occupation Health and First Aid
(C)Soft Computing	(C)Digital Marketing & SEO	Robotics
(D)Advance Java Programming	(D)Semantic Web & Ontologies	Industrial Electronics

### Semester VIII (SCHEME A)

S.No.	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	PEC	CS04	Professional Elective-IV	3	-	-	3
2	PEC	CS05	Professional Elective-V	3	-	-	3
3	SBC	CS04(P)	Data Analytics using Tableau/PowerBi	-	-	4	2
4	PROJ	CS07(A)	Project -III	-	-	16	8
Total Credits							16

### Semester VIII (SCHEME B)

S.No.	Course Type	Course Code	Course Title	Hrs./ Week			Credits
				L	T	P	
1	PEC	CS04	Professional Elective Course-IV	3	-	-	3
2	PEC	CS05	Professional Elective Course-V	3	-	-	3
3	SBC	CS04(P)	Data Analytics using Tableau/PowerBi	-	-	4	2
4	PROJ	CS07(B)	Project /Internship (Industry/Corporate/Academia)	-	-	16	8
Total Credits							16

**Note:**

➤ In Eighth Semester, students may opt for ‘SCHEME A’ or ‘SCHEME B’.

Professional Elective Course (PEC)–IV, CS04 (Any One Course)	Professional Elective Course (PEC)–V, CS05 (Any One Course)
(A)Data Mining & Warehousing	(A) Big Data & Hadoop
(B)Deep and Reinforcement Learning	(B) Agile Software Development
(C)Digital Image Processing	(C) Computational Intelligence
(D) Quantum Computing	(D) Data Visualization