

Proposed Scheme
Total Credits
B.Tech. CSE(IoT) [Regular Students]

Sr. No.	Course Type	Course Code	Course Name	Teaching Scheme			Credits	
				L	T	P		
Semester - I			Total Academic Engagement and Credits	13	1	10	19	
Semester - II				13	1	14	21	
Semester - III				10	3	14	20	
Semester - IV				12	4	14	23	
Semester - V				13	3	14	23	
Semester - VI				14	3	12	23	
Semester - VII				9	3	18	21	
Semester - VIII				6	-	20	16	
Total				90	18	116	166	

Total Credits
[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				12	4	14	23	
Semester - V				13	3	14	23	
Semester - VI				14	3	12	23	
Semester - VII				9	3	18	21	
Semester - VIII				6	-	20	16	
Total				64	16	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	-	-	-	-	08	02
	(b) Basic Science Laboratory Course		1	1	-	-	-	-	-	-		
2	(a) Engineering Science Courses	ESC	3	4	-	-	-	-	-	-	12	-
	(b) Engineering Science Laboratory Courses		2	3	-	-	-	-	-	-		
3	(a) Humanities and Social Sciences including Management Courses	HSMC	1	-	1	1	1	1	-	-	07	04
	(b) Humanities and Social Sciences including Management Laboratory Courses		1	1	-	-	-	-	-	-		
4	(a) Professional Core Courses	PCC	-	-	3	3	4	3	1	-	25	25
	(b) Professional Core Laboratory Courses	LC-PCC	-	-	4	3	2	1	1	-		
5	(a) Professional Elective Courses	PEC	-	-	-	-	-	1	2	2	06	06
	(b) Professional Elective Laboratory Courses	LC-PEC	-	-	-	-	-	-	1	-		
6	Inter-disciplinary Foundation Courses	IFC	-	-	-	1	1	-	-	-	02	02
7	Skill Based Courses	SBC	1	1	-	1	1	-	-	1	05	03
8	Liberal Learning Courses	LLC	-	1	-	1	-	1	-	-	03	02
9	Inter-disciplinary Open Courses	IOC	-	-	-	-	-	1	1	-	02	02
10	Project	PROJ	-	-	-	-	1	2	2	1	06	06
11	Mandatory Learning Courses	MLC	-	-	1	1	1	1	-	-	04	04
Total			12	12	11	11	11	11	8	4	80	56

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	6	8	-	-	-	-	-	-	19	-
	(b) Engineering Science Laboratory Courses		2	3	-	-	-	-	-	-		
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	-	-	10	10	12	9	3	-	59	59
	(a) Professional Core Laboratory Courses	LC-PCC	-	-	6	4	3	1	1	-		
5	Professional Elective Courses	PEC	-	-	-	-	-	3	6	6	16	16
	Professional Elective Laboratory Courses	LC-PEC	-	-	-	-	-	-	1	-		
6	Inter-disciplinary Foundation Courses	IFC	-	-	-	2	2	-	-	-	4	4
7	Skill Based Courses	SBC	1	1	-	2	2	-	-	2	8	6
8	Liberal Learning Courses	LLC	1	-	1	-	-	1	-	-	3	2
9	Inter-disciplinary Open Courses	IOC	-	-	-	-	-	3	3	-	6	6
10	Project	PROJ	-	-	-	-	2	4	7	8	21	21
11	Mandatory Learning Courses	MLC	-	-	0	0	0	0	-	-	Audit	Audit
Total			20	20	21	22	23	23	21	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	08	20	02	6
	(b) Basic Science Laboratory Course					
2	(a) Engineering Science Courses	ESC	12	19	-	-
	(b) Engineering Science Laboratory Courses					
3	(a) Humanities and Social Sciences including Management Courses	HSMC	07	10	04	06
	(b) Humanities and Social Sciences including Management Laboratory Courses					
4	(a) Professional Core Courses	PCC	25	59	25	59
	(b) Professional Core Laboratory Courses	LC-PCC				
5	Professional Elective Courses	PEC	6	16	6	16
	Professional Elective Laboratory Courses	LC-PEC				
6	Inter-disciplinary Foundation Courses	IFC	02	4	02	4
7	Skill Based Courses	SBC	05	8	03	6
8	Liberal Learning Courses	LLC	03	3	02	2
9	Inter-disciplinary Open Courses	IOC	02	6	02	6
10	Project	PROJ	06	21	06	21
11	Mandatory Learning Courses	MLC	04	Audit	4	Audit
Total			80	166	56	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	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	Credit to be added in Second Semester			
12	SBC	ME01(P)	Tech. Shop Lab	-	-	2	1
Total Credits							19

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	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)	Electronic and Computer Workshop	-	-	2	1
12	LLC	LLC01	Liberal Learning Course-I	-	-	2	1
13	HSMC	HS01	Design Thinking	-	-	2	1
Total Credits							21

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	Scheme			Credits
				L	T	P	
1	BSC	MA04	Discrete Structure	2	1	—	3
2	PCC	IO01	Analog and Digital Electronics	3	1	—	4
3	PCC	IO02	Data Structure & Algorithm	2	1	—	3
4	PCC	IO03	Introduction to IoT	3	—	—	3
5	HSMC	HS03	Innovation and Creativity	—	—	2	1
6	LC	IO01(P)	Analog and Digital Electronics Lab	—	—	2	1
7	LC	IO02(P)	Data Structure & Algorithm Lab	—	—	2	1
8	LC	IO03(P)	Introduction to IoT Lab	—	—	4	2
9	LC	IO04(P)	Programming PracticesLab(Java)	—	—	4	2
10	LLC	LLC02	Liberal Learning Course –II (NCC/NSO/NCA)	Credit to be added in Fourth Semester			
11	MLC	MLC 01	Professional Laws, Ethics, Gender, Human value and Harmony	1	—	—	Audit*
Total credits							20

* Zero credit course

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

Sr. No.	Course Type	Course Code	Course Title	Scheme			Credits
				L	T	P	
1	BSC	MA03	Probability & Statistics	2	1	—	3
2	PCC	IO05	Computer Network	2	1	—	3
3	PCC	IO06	Sensors and Actuators	2	1	—	3
4	PCC	IO07	Data Base Management System	3	1	—	4
5	HSMC	HS04	Entrepreneurship and Principles of Management	1	—	—	1
6	IFC	AL01	Interdisciplinary Foundation Course-I	2	—	—	2
7	LC	IO05(P)	Computer Network Lab	—	—	2	1
8	LC	IO06(P)	Sensors and Actuators Lab	—	—	4	2
9	LC	IO07(P)	Data Base Management System Lab	—	—	2	1
10	SBC	IO01(P)	IoT Workshop	—	—	4	2
11	LLC	LLC02	Liberal Learning Course –II (NCC/NSO/NCA)	—	—	2	1
12	MLC	MLC02	Constitution of India	1	—	—	Audit*
Total Credits							23

* Zero credit course

Note:

- **IoT Workshop –SBC-IO01**
 - Platform Tool- Raspberry Pi/ Arduino
- **Interdisciplinary Foundation Course-I (IFC –AL 01)**
(Offered by CSE (AIML) Branch)
 - Foundation of AIML
- **Liberal Learning Course-II, LLC-01 (Any One Course from NCC/NSO/NCA)**
 - J. NCC**
 - K. NSO**
 - Anyone Sports at State Level
 - L. NCA**
 - Music
 - Dance
 - Photography
 - Cinematography
 - Interior Design
 - Podcasting
 - Theatre
 - Painting etc

Semester V

Sr. No.	Course Type	Course Code	Course Title	Scheme			Credits
				L	T	P	
1	PCC	IO08	Microprocessor & Microcontroller	2	1	–	3
2	PCC	IO09	Operating System	2	1	–	3
3	PCC	IO10	Theory of Computation	2	1	–	3
4	PCC	IO11	Software Engineering & Project Management	3	–	–	3
5	HSMC	HS05	Humanities and Social Sciences Open Courses - I	2	–	–	2
6	IFC	CB01	Interdisciplinary Foundation Course-II	2	–	–	2
7	LC	IO08(P)	Microprocessor & Microcontroller Lab	–	–	4	2
8	LC	IO09(P)	Operating System Lab	–	–	2	1
9	SBC	IO02(P)	Programming in Python Lab	–	–	4	2
10	PROJ	IO01	Mini Project	–	–	4	2
11	LLC	LLC03	Liberal Learning Course –III	Credit to be added in Sixth Semester			
12	MLC	MLC03	Environmental Studies	1	–	–	Audit*
13	PROJ	–	Internship-I	Credit to be added in Sixth Semester.			
Total Credits							23

* Zero credit courses

Humanities and Social Sciences Open Courses – I, HS05 (Any One Course)

(A) English Language Proficiency

(B) German Language

(C) French Language

(D) Japanese Language

(E) Soft Skills and Interpersonal Communication

- **Interdisciplinary Foundation Course-II (IFC-CB01)**

(Offered by CSITCS Branch)

➤ Block Chain Technology

- **Liberal Learning Course-II, LLC-01 (Any One Course from NCC/NSO/NCA)**

M. NCC

N. NSO

➤ Anyone Sports at State Level

O. NCA

➤ Music

➤ Dance

➤ Photography

➤ Cinematography

➤ Interior Design

➤ Podcasting

➤ Theatre

➤ Painting etc

Semester VI

Sr. No.	Course Type	Course Code	Course Title	Scheme			Credits
				L	T	P	
1	PCC	IO12	Cyber Security	2	1	—	3
2	PCC	IO13	Compiler Design	2	1	—	3
3	PCC	IO14	Embedded System & Robotics	2	1	—	3
4	HSMC	HS06	Humanities and Social Sciences Open Courses - II	2	—	—	2
5	PEC	IO01	Professional Elective-I	3	—	—	3
6	IOC	-	Interdisciplinary Open Course-I	3	—	—	3
7	LC	IO14(P)	Embedded System & Robotics Lab	—	—	2	1
8	PROJ	IO02	Minor Project-I	—	—	4	2
9	PROJ	IO03	Evaluation of Internship-I	—	—	4	2
10	LLC	LLC03	Liberal Learning Course -III	—	—	2	1
11	MLC	MLC04	Intellectual Property Rights	1	—	—	Audit
12	PROJ	—	Internship-II	Credit to be added in Seventh Semester.			Total Credits 23

Note:-

Professional Elective Course (PEC)-I, IO01(Any One Course)	Interdisciplinary Open Course (IOC)-I, (Any One Course)	Humanities and Social Sciences Open Courses – I, HS06 (Any One Course)
(A) IoT Architecture and its Protocol	MA01(A) Scientific Aptitude	(A) Industrial Safety Psychology
(B) Advanced Java Programming	FT (A)Fundamentals of Fire and Safety	(B) Project Management
(C) Adhoc & Wireless Sensor Network	Operation Research	(C) Business Communication
(D) Information Storage Management	Green Technology	

- Liberal Learning Course-II, LLC-01 (Any One Course from NCC/NSO/NCA)

P. NCC

Q. NSO

- Anyone Sports at State Level

R. NCA

- Music
- Dance
- Photography
- Cinematography
- Interior Design
- Podcasting
- Theatre
- Painting etc

Semester VII

Sr. No.	Course Type	Course Code	Course Title	Scheme			Credits
				L	T	P	
1	PCC	IO15	Data Science	2	1	—	3
2	PEC	IO02	Professional Elective -II	2	1	—	3
3	PEC	IO03	Professional Elective -III	2	1	—	3
4	IOC	-	Interdisciplinary Open Course-II	3	—	—	3
5	LC	IO15(P)	Data Science Lab	—	—	2	1
6	LC-PEC	IO02(P)	Professional Elective-II Lab	—	—	2	1
7	PROJ	IO04	Project-II	—	—	8	4
8	PROJ	IO05	Evaluation of Internship-II	—	—	6	3
Total Credits							21

Note:-

Professional Elective Course (PEC)-II, IO02(Any One Course)	Professional Elective Course (PEC)-III, IO03 (Any One Course)	Interdisciplinary Open Course IOC-II, (Any One Course)
(A)Mobile Application Development	(A) Information Theory and Coding	CS01 Digital Marketing & SEO
(B) Soft Computing	(B)Pattern Recognition	FT (B) Occupation Health and First Aid
(C)Cloud Computing	(C) Industrial and Medical IoT	3-D Printing & Application
(D) Multimedia design for IoT	(D) Deep & Reinforcement Learning	Industrial Electronics

Semester VIII (Scheme A)

Sr. No.	Course Type	Course Code	Course Title	Scheme			Credits
				L	T	P	
1	PEC	IO04	Professional Elective -IV	3	—	—	3
2	PEC	IO05	Professional Elective-V	3	—	—	3
3	SBC	IO03(P)	Data Analytics (Tableau/PowerBi)	—	—	4	2
4	PROJ	IO06(A)	Project-III	—	—	16	8
Total Credits							16

Semester VIII (Scheme B)

Sr. No.	Course Type	Course Code	Course Title	Scheme			Credits
				L	T	P	
1	PEC	IO04	Professional Elective -IV	3	—	—	3
2	PEC	IO05	Professional Elective-V	3	—	—	3
3	SBC	IO03(P)	Data Analytics (Tableau/PowerBi)	—	—	4	2
4	PROJ	IO06(B)	Internship and Project (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, IO04 (Any One Course)	Professional Elective Course (PEC)-V, IO05 (Any One Course)
(A) Data Mining & Warehousing	(A) Wireless & Mobile Computing
(B) Quantum Computing	(B) Agile Software Development
(C) Natural Language Processing	(C) Data Visualization
(D) Relational Data Base Management	(D) Process Modeling & Simulation