

Scheme of Syllabus B.Tech. (CSE)

B. Tech. (Computer Science and Engineering): Semester-wise Scheme

Induction Programme

It is mandatory to conduct an induction programme for newly admitted students right at the beginning of the first semester. The objective of the induction programme is to create a bond between the institution and the newly admitted students.

The new students enter an institution with diverse backgrounds and expectations. It is important to help them adjust to the new environment. To meet this purpose, there will be three week-long induction programme before the normal classes start. The induction program shall provide students the opportunity to settle down and be comfortable in the new environment. The new students will come to know their seniors, faculty members, department and university. The student would be engaged in the following activities.

1. Familiarization with the Department and the University
2. Physical activities like morning walks, cycling or playing one or the other games.
3. Creative arts like painting, music and dancing etc.
4. Talks and lectures by eminent people, and group discussion on universal Human values
5. Literary activities like reading writing or debating

The schedule for organizing the induction programme shall be prepared every year at university level.

Students will be engaged in diverse activities at the level of Department. Depending on the interest, every student must opt for one of the activities during all the semesters. For this purpose, the following clubs shall be established in the Department.

1. Sports Club
2. Green Club
3. Culture, Literature and Film Club
4. Social Service Club
5. Technology Innovation Club

Each student will spend 3 to 5 hours for these activities per week.

SEMESTER I

Sr. No.	Course Codes	Nomenclature of the Course	Hours per week			Credits
			L	T	P	
1.	BSC101-T BSC101-P	Physics (Group A)	3	1	3	5.5
	BSC102-T BSC102-P	Chemistry (Group B)				
2.	BSC103-T	Mathematics –I	3	0	1	4.0
	BSC105-T	Mathematics –I (for CSE/IT)				
3.	ESC101-T ESC101-P	Basic Electrical Engineering (Group A)	3	1	2	5.0
	ESC103-T ESC103-P	Programming for Problem Solving (Group B)				
4.	ESC104-T ESC104-P	Workshop/Manufacturing Practices (Group A)	1	0	4	3
	ESC102-P	Engineering Graphics & Design (Group B)				
5.	MC101	Induction Training (Group A & B)	3 weeks	0	0	0
Total Credit						17.5

SEMESTER II

Sr. No.	Course Codes	Nomenclature of the Course	Hours per week			Credits
			L	T	P	
1.	BSC101-T BSC101-P	Physics (Group B)	3	1	3	5.5
	BSC102-T BSC102-P	Chemistry (Group A)				
2.	BSC103-T	Mathematics –II	3	0	1	4.0
	BSC106-T	Mathematics –II (for CSE/IT)				
3.	ESC101-T ESC101-P	Basic Electrical Engineering (Group B)	3	1	2	5.0
	ESC103-T ESC103-P	Programming for Problem Solving (Group A)				
4.	ESC104-T ESC104-P	Workshop/Manufacturing Practices (Group B)	1	0	4	3
	ESC102-P	Engineering Graphics & Design (Group A)				
5.	HSMC101-T HSMC101-P	English (Group A and B)	2	0	2	3
6.	MC102-T	Environmental Sciences (Group A)	3	0	0	0
	MC103-T	Indian Constitution (Group B)	3	0	0	
Total Credit						20.5

SEMESTER-III

Sr. No.	Course Codes	Nomenclature of the Courses	Hours per week			Credits
			L	T	P	
1.	BSC201-T	Mathematics-III	3	0	0	3
3.	PCC-CSE201-T/ PCC-IT201-T	Data Structures and Algorithms	3	0	0	3
4.	PCC-CSE202-T/ PCC-IT-202-T	Object Oriented Programming using C++	3	0	0	3
5.	PCC-CSE203-T/ PCC-IT203-T	Discrete Mathematics	3	0	0	3
6.	PCC-CSE204-T PCC-IT204-T	Computer Organisation and Architecture	3	0	0	3
7.	MC102-T	Environmental Science	3	0	0	0
8.	PCC-CSE201-P/ PCC-IT201-P	Data Structures and Algorithms using C/C++ Lab.	0	0	4	2
9.	PCC-CSE202-P/ PCC-IT202-P	Object Oriented Programming using C++ Lab.	0	0	4	2
Total Credits						19

SEMESTER IV

Sr. No.	Course Codes	Nomenclature of the Courses	Hours per week			Credits
			L	T	P	
1.	PCC-CSE205-T/ PCC-IT205-T	Microprocessor and Interfacing	3	0	0	3
2.	PCC-CSE206-T/ PCC-IT301-T	Computer Networks	3	0	0	3
3.	PCC-CSE207-T/ PCC-IT207-T	Database Management System	3	0	0	3
4.	PCC-CSE208-T/ PCC-IT208-T	Analysis and Design of Algorithms	3	0	0	3
5.	PCC-CSE209-T/ PCC-IT209-T	Software Engineering	3	0	0	3
6.	PCC-CSE210-T/ PCC-IT210-T	Java Programming	3	0	0	3
7.	PCC-CSE205-P PCC-IT205-P	Microprocessor and Interfacing Lab.	0	0	2	1
8.	PCC-CSE206-P/ PCC-IT301-P	Computer Networks Lab.	0	0	2	1
9.	PCC-CSE207-P PCC-CSE207-P	Database Management System Lab.	0	0	2	1
10.	PCC-CSE210-P/ PCC-IT210-P	Java Programming Lab.	0	0	4	2
Total Credit						23
Industrial Training of 4-6 weeks after IV th semester						

Semester V

Sr. No.	Course Codes	Nomenclature of the Courses	Hours per week			Credits
			L	T	P	
1.	PCC-CSE301-T/ PEC-IT402-T	Computer Graphics	3	0	0	3
2.	PCC-CSE302-T/ PEC-IT308-T	Python Programming	3	0	0	3
3.	PCC-CSE303-T/ PEC-IT305-T	High Speed Network Technologies	3	0	0	3
4.	PCC-CSE304-T	Cryptography and Network Security	3	0	0	3
5.	OEC-T	Open Elective Course be opted by students	3	0	0	3
6.	HSMC301-T	Economics for Engineers	2	0	0	2
7.	MC104-T	Essence of Indian Traditional Knowledge	3	0	0	0
8.	PCC-CSE301-P	Computer Graphics Lab.	0	0	2	1
9.	PCC-CSE302-P/ PCC-IT308-P	Python Programming Lab.	0	0	3	1.5
10.	INT-CSE301	Industrial Training	0	0	0	1
Total Credit						20.5

SEMESTER VI

Sr. No.	Course Codes	Nomenclature of the Courses	Hours per week			Credits
			L	T	P	
1.	PCC-CSE305-T/ PCC-IT206-T	Operating Systems	3	0	0	3
2.	PCC-CSE306-T/ PCC-IT303-T	Formal Language and Automata Theory	3	0	0	3
3.	PCC-CSE307-T/ PEC-IT407-T	Data Analytics using R	2	0	0	2
4.	PCC-CSE308-T/ PCC-IT302-T	.NET using C#	2	0	0	2
5.	PEC-CSE301-T to PEC-CSE304-T	Professional Elective Course to be opted by students	3	0	0	3
6.	HSMC302-T	Fundamentals of Management for Engineers	2	0	0	2
7.	OEC-T	Open Elective Course be opted by students	3	0	0	3
8.	PCC-CSE305-P/ PCC-IT206-P	Operating Systems Lab. (UNIX/LINUX)	0	0	2	1
9.	PCC-CSE307-P/ PEC-IT407-P	Data Analytics using R Lab.	0	0	3	1.5
10.	PCC-CSE308-P/ PCC-IT302-P	.NET using C# Lab.	0	0	2	1
Total Credit						21.5
A Mini-Project/Training based on open source tools/.NET						

List of Electives I

1. PEC-CSE301-T/ PEC-IT301-T: Embedded System Design
2. PEC-CSE302-T/ PCC-IT401-T: Wireless and Mobile Communications
3. PEC-CSE303-T/ PEC-IT303-T: Graph Theory
4. PEC-CSE304-T/ PEC-IT304-T: Bioinformatics
5. Any one of the MOOC not studies earlier and of equal credits (3)

*A student can do only one course from MOOC in leu of elective courses in a semester with the approval of Chairperson of the Department.

SEMESTER VII

Sr. No.	Course Codes	Nomenclature of the Courses	Hours per week			Credits
			L	T	P	
1.	PCC-CSE401-T/ PCC-IT306-T	Compiler Design	3	0	0	3
2.	PCC-CSE402-T/ PCC-IT304-T	Artificial Intelligence	3	0	0	3
3.	PEC-CSE401-T to PEC-CSE404-T	Professional Elective Course to be opted by students	3	0	0	3
4.	PEC-CSE405-T to PEC-CSE408-T	Professional Elective Course to be opted by students	3	0	0	3
5.	OEC-T	Open Elective Course be opted by students	3	0	0	3
6.	PEC-CSE(405-P, 406-P, 407-P, 408-P)	Professional Elective Course Lab.	0	0	2	1
7.	PROJ-CSE401	Major Project-I	0	0	8	4
8.	PROJ-CSE402	Mini Project using open source tools/.NET	0	0	2	1
Total Credit						21

List of Electives II

1. PEC-CSE401-T/ PEC-IT401-T: Software Project Management
2. PEC-CSE402-T/ PEC-IT302-T: Soft Computing
3. PEC-CSE403-T/ PEC-IT403-T: Distributed Operating Systems
4. PEC-CSE404-T/ PEC-IT404-T: Cloud Computing
5. Any one of the MOOC not studies earlier and of equal credits (3)

List of Elective III

1. PEC-CSE405-T/ PEC-IT405-T: Advanced Microprocessor
2. PEC-CSE406-T/ PCC-IT403-T: Mobile Application Development
3. PEC-CSE407-T/ PEC-IT411-T: Multimedia Technologies
4. PEC-CSE408-T/ PEC-IT408-T: Digital Image Processing
5. Any one of the MOOC not studies earlier and of equal credits (4)

List of Elective III (Labs)

1. PEC-CSE405-P/ PEC-IT405-P: Advanced Microprocessor (Lab.)
2. PEC-CSE406-P/ PCC-IT403-P: Mobile Application Development (Lab.)
3. PEC-CSE407-P/ PEC-IT411-P: Multimedia Technologies (Lab.)
4. PEC-CSE408-P/ PEC-IT408-P: Digital Image Processing (Lab.)

SEMESTER VIII

Sr. No.	Course Codes	Nomenclature of the Courses	Hours per week			Credits
			L	T	P	
1.	PCC-CSE403-T/ PCC-IT402-T	Data Mining Techniques	3	0	0	3
2.	PEC-CSE409-T to PEC-CSE412-T	Professional Elective Course to be opted by students	3	0	0	3
3.	PEC-CSE413-T to PEC-CSE417-T	Professional Elective Course to be opted by students	3	0	0	3
4.	PEC-CSE (409-P, 410-P, 411-P, 412-P)	Professional Elective Course Lab.	0	0	2	1
5.	PEC-CSE (413-P, 414-P, 415-P, 416-P, 417-P)	Professional Elective Course Lab.	0	0	2	1
6.	PROJ-CSE403	Project II	0	0	12	6
Total Credit						17

List of Electives IV

1. PEC-CSE409-T/ PEC-IT409-T: Internet of Things
2. PEC-CSE410-T/ PEC-IT410-T: Software Defined Networks
3. PEC-CSE411-T/ PCC-IT305-T: Network Administration and Management
4. PEC-CSE412-T/ PEC-IT412-T: Software Testing and Quality Assurance
5. Any one of the MOOC not studies earlier and of equal credits (4)

List of Electives IV (Labs)

1. PEC-CSE409-P/ PEC-IT409-P: Internet of Things (Lab.)
2. PEC-CSE410-P/ PEC-IT410-P: Software Defined Networks (Lab.)
3. PEC-CSE411-P/ PCC-IT305-P: Network Administration and Management(Lab.)
4. PEC-CSE412-P/ PEC-IT412-P: Software Testing and Quality Assurance (Lab.)

List of Electives V

1. PEC-CSE413-T/ PEC-IT413-T: Machine Learning
2. PEC-CSE414-T/ PEC-IT414-T: Big Data Analytics
3. PEC-CSE415-T/ PEC-IT415-T: Web Development
4. PEC-CSE416-T/ PEC-IT416-T: Statistical Computing
5. PEC-CSE417-T/ PEC-IT406-T: Digital Forensics
6. Any one of the MOOC not studies earlier and of equal credits (4)

List of Electives V (Labs)

1. PEC-CSE413-P/ PEC-IT413-P: Machine Learning (Lab.)
2. PEC-CSE414-P/ PEC-IT414-P: Big Data Analytics (Lab.)
3. PEC-CSE415-P/ PEC-IT415-P: Web Development (Lab.)
4. PEC-CSE416-P/ PEC-IT416-P: Statistical Computing (Lab.)
5. PEC-CSE417-P/ PEC-IT406-P: Digital Forensics (Lab.)

