

**FIRST YEAR ENGINEERING – CBCS PATTERN**

**SEMESTER - I**

Sr. No	Course	TEACHING SCHEME									EXAMINATION SCHEME							
		THEORY			TUTORIAL			PRACTICAL			THEORY				PRACTICAL (Term wok)			
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	%Min	Hours	Max	%Min
1	BSC-P101	3	3	3	-	-	-	1	2	2		CIE	30	100	40%	As per BOS Guidelines	25	40%
	BSC-C101											ESE	70					
2	BSC-M101	3	3	3	1	1	1	-	-	-		CIE	30	100	40%		25	40%
												ESE	70					
3	ESC-P101	3	3	3	-	-	-	1	2	2		CIE	30	100	40%		25	40%
	ESC-C101											ESE	70					
4	ESC-P102	3	3	3	-	-	-	1	2	2		CIE	30	100	40%		25	40%
	ESC-C102											ESE	70					
5	ESC-P103	3	3	3	-	-	-	1	2	2		CIE	30	100	40%		25	40%
	ESC-C103											ESE	70					
6	HM-01	1	1	1	-	-	-	1	2	2		-	-	-	-	25	40%	
7	ESC-W101	1	1	1	-	-	-	1	2	2		-	-	-	-	50	40%	
	<b>TOTAL</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>12</b>	<b>12</b>			<b>500</b>			<b>200</b>		

**SEMESTER – II**

1	BSC-P101	3	3	3	-	-	-	1	2	2		CIE	30	100	40%	As per BOS Guidelines	25	40%
	BSC-C102											ESE	70					
2	BSC-M102	3	3	3	1	1	1	-	-	-		CIE	30	100	40%		25	40%
												ESE	70					
3	ESC-C104	3	3	3	-	-	-	1	2	2		CIE	30	100	40%		25	40%
	ESC-P104											ESE	70					
4	ESC-C105	3	3	3	-	-	-	1	2	2		CIE	30	100	40%		25	40%
	ESC-P105											ESE	70					
5	ESC-C106	3	3	3	-	-	-	1	2	2		CIE	30	100	40%		25	40%
	ESC-P106											ESE	70					
6	HM-102	1	1	1	-	-	-	1	2	2		-	-	-	-	25	40%	
7	ESC-W102	1	1	1	-	-	-	1	2	2		-	-	-	-	50	40%	
	<b>TOTAL</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>6</b>	<b>12</b>	<b>12</b>			<b>500</b>			<b>200</b>		
	<b>TOTAL</b>	<b>34</b>	<b>34</b>	<b>34</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>12</b>	<b>24</b>	<b>24</b>			<b>1000</b>			<b>400</b>		

CIE – Continuous Internal Evaluation  
ESE – End Semester Examination

- |   |   |
|---|---|
| • Candidate contact hours per week : 30 Hours (Minimum)   | • Total Marks for B.E. Sem I & II : <b>700 + 700 = 1400</b>                         |
| • Theory and Practical Lectures : 60 Minutes Each   | • Total Credits for B.E.-I (Semester I & II) : <b>48 (SEM-I: 24 + SEM – II: 24)</b> |
| • In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE. |   |
| • There shall be separate passing for theory and practical (term work) courses.                                   |   |

**(A) Non-Credit Self Study Course : Compulsory Civic Courses (CCC)**

**For Sem I: CCC – I :** Democracy, Elections and Good Governance

**(B) Non-Credit Self Study Course : Skill Development Courses (SDC)**

**For Sem II: SDC – I :** Any one from following (i) to (v)

- i) Business Communication & Presentation ii) Event management iii) Personality Development, iv) Yoga & Physical Management v) Resume, Report & proposal writing

**Note:**

- 1. BSC:** Basic Science Course are compulsory.
- 2. HM:** Humanities and Management are compulsory.
- 3. ESC :** Engineering Science Course : **ESC – P** courses (subjects) are mandatory for **Physics** group, while **ESC – C** courses (subjects) are mandatory for **Chemistry** group.
- 4.** There will be two groups for Sem I & II Physics and Chemistry. The Candidate's those opting Physics group in Sem I shall appear for Chemistry group in Sem II and Vice-versa.
- 5. ESC-W:** Engineering Science Course-Workshop are compulsory.

### Semester - I

Sl. No	Code No.	Subject	Semester	Credits
1.	BSC-P101	Engineering Physics	1	3
2.	BSC-C101	Engineering Chemistry	1	3
3.	BSC-M101	Engineering Mathematics-I	1	3
4.	ESC-P101	Basic Electrical Engineering	1	3
5.	ESC-P102	Basic Civil Engineering	1	3
6.	ESC-P103	Engineering Graphics	1	3
7.	ESC-C101	Fundamentals of Electronics and Computer Programming	1	3
8.	ESC-C102	Applied Mechanics	1	3
9.	ESC-C103	Basic Mechanical Engineering	1	3
10.	ESC-W101	Workshop Practice-I	1	2
11.	HM-01	Professional Communication-I	1	2

### Semester - II

Sl. No	Code No.	Subject	Semester	Credits
1.	BSC-P101	Engineering Physics	2	3
2.	BSC-C102	Engineering Chemistry	2	3
3.	BSC-M102	Engineering Mathematics-II	2	3
4.	ESC-C104	Basic Electrical Engineering	2	3
5.	ESC-C105	Basic Civil Engineering	2	3
6.	ESC-C106	Engineering Graphics	2	3
7.	ESC-P104	Fundamentals of Electronics and Computer	2	3
8.	ESC-P105	Applied Mechanics	2	3
9.	ESC-P106	Basic Mechanical Engineering	2	3
10.	ESC-W102	Workshop Practice-II	2	2
11.	HM-102	Professional Communication-II	2	2

**SECOND YEAR COMPUTER SCIENCE AND ENGINEERING - CBCS  
PATTERN**

**SEMESTER - III**

Sr. No.	Course Subject / Title	TEACHING SCHEME									EXAMINATION SCHEME															
		THEORY			TUTORIAL			PRACTICAL			THEORY				PRACTICAL			TERMWORK								
		Credits	N0. Of Lectures	Hours	Credits	No. of Hours	Hours	Credits	No. of Hours	Hours	Hours	mode	marks	Total Marks	MIN.	Hours	MAX	MIN.	Hours	MAX	MIN.					
1	BSC - CS301 Applied Mathematics	3	3	3	1	1	1					CIE	30	100	40	AS PER BOS GUIDELINES				AS PER BOS GUIDELINES	25	10				
											ESE	70														
2	PCC- CS302 Discrete Mathematics & Structures	3	3	3	1	1	1					CIE	30	100	40										25	10
											ESE	70														
3	PCC- CS303 Data Structures	3	3	3								CIE	30	100	40											
											ESE	70														
4	PCC- CS304 Computer Networks - I	3	3	3				1	2	2		CIE	30	100	40							50	20		25	10
											ESE	70														
5	PCC- CS305 Microprocessors	3	3	3				1	2	2		CIE	30	100	40					25	10					
											ESE	70														
6	PCC- CS306 C programming	3	3	3				2	4	4							50	20		50	20					
7	HM- CS307 Soft Skills							1	2	2							25	10		25	10					
	<b>Total (SEM -III)</b>	<b>18</b>	<b>18</b>	<b>18</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>5</b>	<b>10</b>	<b>10</b>				<b>500</b>			<b>125</b>			<b>175</b>						

**SECOD YEAR COMPUTER SCIENCE AND ENGINEERING - CBCS PATTERN**

**SEMESTER - IV**

Sr. No	Course Subject / Title	TEACHING SCHEME									EXAMINATION SCHEME											
		THEORY			TUTORIAL			PRACTICAL			THEORY				PRACTICAL			TERMWORK				
		Credits	NO. Of Lectures	Hours	Credits	No. of Hours	Hours	Credits	No. of Hours	Hours	Hours	mode	marks	Total Marks	MIN.	Hours	MAX	MIN.	Hours	MAX	MIN.	
1	PCC-CS401 Automata Theory	3	3	3								CIE	30	100	40	AS PER BOS GUIDELINES						
											ESE	70										
2	PCC- CS402 Computer Networks - II	3	3	3				1	2	2		CIE	30	100	40			50	20		25	10
												ESE	70									
3	PCC- CS403 Computer Organization and Architecture	3	3	3								CIE	30	100	40							
												ESE	70									
4	PCC- CS404 Operating Systems - I	3	3	3				1	2	2		CIE	30	100	40						25	10
												ESE	70									
5	PCC- CS405 Software Engineering	3	3	3								CIE	30	100	40							
												ESE	70									
6	PCC- CS406 Object Oriented Programming	2	2	2				2	4	4							50	20		50	20	
7	PW- CS407 Mini Project							1	2	2							50	20		50	20	
8	MC-CS408 Environmental Studies	3	3	3								CIE	30	100	40							
												ESE	70									
	<b>Total (SEM -IV)</b>	<b>20</b>	<b>20</b>	<b>20</b>				<b>5</b>	<b>10</b>	<b>10</b>				<b>600</b>			<b>150</b>			<b>150</b>		
	<b>Total</b>	<b>38</b>	<b>38</b>	<b>38</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>10</b>	<b>20</b>	<b>20</b>				<b>1100</b>			<b>275</b>			<b>325</b>		

CIE- Continuous Internal Evaluation

ESE – End Semester Examination

• Candidate contact hours per week : 30 Hours (Minimum)	• Total Marks for S.E. Sem III & IV : <b>800 + 900 =1700</b>
• Theory and Practical Lectures : 60 Minutes Each	• Total Credits for S.E. Sem III & IV : <b>50 (SEM-III: 25 + SEM -IV: 25)</b>
• In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE.	
• There shall be separate passing for theory and practical (term work) courses.	

**Note:**

1. **BSC-CS:** Basic Science Course – Computer Science and Engineering are compulsory.
2. **ESC-CS:** Engineering Science Course - Computer Science and Engineering are compulsory.
3. **PCC-CS:** Professional Core Course – Computer Science and Engineering are compulsory.
4. **HM-CS:** Humanities and Management- Computer Science and Engineering are compulsory.
5. **PW-CS:** Project Work-- Computer Science and Engineering are compulsory.
6. **MC-CS:** Mandatory Course -Environmental Studies which is compulsory for theory 70 marks and project work 30 marks.

**Semester -III**

<b>Sl. No</b>	<b>Code No.</b>	<b>Subject</b>	<b>Semester</b>	<b>Credits</b>
12.	BSC-CS301	Applied Mathematics	3	4
13.	PCC- CS302	Discrete Mathematical Structures	3	4
14.	PCC- CS303	Data Structures	3	3
15.	PCC- CS304	Data Communications	3	5
16.	PCC-CS305	Microprocessors	3	4
17.	PCC- CS306	Programming Lab – I	3	4
18.	PW-CS307	Soft Skills	3	1

**Semester - IV**

<b>Sl. No</b>	<b>Code No.</b>	<b>Subject</b>	<b>Semester</b>	<b>Credits</b>
12.	PCC- CS401	Automata Theory	4	4
13.	PCC-CS402	Computer Networks	4	4
14.	PCC-CS403	Computer Organization	4	3
15.	PCC-CS404	Operating System –I	4	4
16.	PCC-CS405	Software Engineering	4	3
17.	PCC- CS406	Programming Lab - II	4	4
18.	PW-CS407	Mini Project	4	1
19.	MS-CS408	Environmental Studies	4	3

**THIRD YEAR COMPUTER SCIENCE AND ENGINEERING – CBCS PATTERN**

SEMESTER – V																					
Sr. No	Course (Subject Title)	TEACHING SCHEME									EXAMINATION SCHEME										
		THEORY			TUTORIAL			PRACTICAL			THEORY				PRACTICAL			TERM WORK			
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	Min	Hours	Max	Min	Hours	Max	Min
1	PCC-CS501	3	3	3	-	-	-	1	2	2		CIE	30	100	40	As per BOS Guidelines	-	-	As per BOS Guidelines	50	20
2	PCC- CS502	3	3	3	-	-	-	1	2	2		ESE	70				25	10		50	20
3	PCC- CS503	3	3	3	-	-	-	-	-	-		CIE	30	100	40		-	-		-	-
4	PCC- CS504	4	4	4	1	1	1	-	-	-		ESE	70				-	-		25	10
5	OEC- CS505	3	3	3	-	-	-	-	-	-		CIE	30	100	40		-	-		-	-
6	PCC-CS506	3	3	3	-	-	-	2	4	4		ESE	70				50	20		50	20
7	HM-CS507				1	1	1					CIE	30	100	40		-	-		-	-
	<b>TOTAL</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>4</b>	<b>8</b>	<b>8</b>		ESE	70			<b>500</b>		<b>100</b>		<b>200</b>	
SEMESTER –VI																					
1	PCC-CS601	3	3	3	-	-	-	1	2	2		CIE	30	100	40	As per BOS Guidelines			As per BOS Guidelines	25	10
2	PCC-CS602	4	4	4	-	-	-	1	2	2		ESE	70				100	40			
3	PCC-CS603	4	4	4	-	-	-	1	2	2		CIE	30	100	40		50	20		25	10
4	PCC-CS604	3	3	3	1	1	1					ESE	70				-	-			
5	OEC –CS605	3	3	3	-	-	-					CIE	30	100	40		-	-		25	10
6	PCC-CS606	2	2	2	-	-	-	1	2	2		ESE	70				50	20		25	10
7	PW-CS607							1	2	2							50	20		25	10
	<b>TOTAL</b>	<b>19</b>	<b>19</b>	<b>19</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>10</b>	<b>10</b>				<b>500</b>		<b>150</b>		<b>150</b>			
	<b>TOTAL</b>	<b>38</b>	<b>38</b>	<b>38</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>9</b>	<b>20</b>	<b>20</b>				<b>1000</b>		<b>250</b>		<b>350</b>			

CIE- Continuous Internal Evaluation



• Candidate contact hours per week : 30 Hours (Minimum)	• Total Marks for T.E. Sem V & VI : <b>800 + 800 = 1600</b>
• Theory and Practical Lectures : 60 Minutes Each	• Total Credits for T.E. Sem V & VI : <b>50 (SEM-I: 25 + SEM – II: 25)</b>
• In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE.	
• There shall be separate passing for theory and practical (term work) courses.	
• <b>**</b> Indicates that the theory examination is of 04 hours duration.	
<b>(A) Non-Credit Self Study Course : Compulsory Civic Courses (CCC)</b> <b>For Sem V: CCC – II : Constitution of India and Local Self Government</b> <b>(B) Non-Credit Self Study Course : Skill Development Courses (SDC)</b> <b>For Sem VI: SDC – II: Any one from following (vi) to (x)</b> vi) Interview & Personal Presentation Skill, vii) Entrepreneurship Development Skill, viii) Travel & Tourism, ix) E-Banking & Financial Services, x) RTI & Human Right Education (HRE), IPR & Patents	

**Note :**

1. **PCC-CS:** Professional Core Course – Computer Science and Engineering are compulsory.
2. **OEC-CS:** Open Elective Course.

### Semester - V

<b>Sl. No</b>	<b>Code No.</b>	<b>Subject</b>	<b>Semester</b>	<b>Credits</b>
19.	PCC-CS501	Computer Graphics	5	4
20.	PCC-CS602	System Programming	5	4
21.	PCC- CS503	Object Oriented Modeling and Design	5	3
22.	PCC- CS504	Computer Algorithms	5	5
23.	OEC- CS505	Embedded Systems	5	3
24.	PCC-CS506	Programming Lab – III	5	5
25.	HM-CS507	Business English	5	1

### Semester - VI

<b>Sl. No</b>	<b>Code No.</b>	<b>Subject</b>	<b>Semester</b>	<b>Credits</b>
20.	PCC-CS601	Compiler Construction	6	4
21.	PCC-CS602	Operating System – II	6	5
22.	PCC-CS603	Database Engineering	6	5
23.	PCC-CS604	Machine Learning	6	4
24.	OEC –CS605	Mechatronics	6	3
25.	PCC-CS606	Programming Lab – IV	6	3
26.	PW-CS607	Domain Specific Mini Project	6	1

**FINAL YEAR COMPUTER SCIENCE AND ENGINEERING – CBCS PATTERN**

<b>SEMESTER –VII</b>																						
Sr. No	Course (Subject Title)	TEACHING SCHEME									EXAMINATION SCHEME											
		THEORY			TUTORIAL			PRACTICAL			THEORY				PRACTICAL			TERM WORK				
		Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Credits	No. of Lecture	Hours	Hours	Mode	Marks	Total Marks	Min	Hours	Max	Min	Hours	Max	Min	
1	PCC-CS701	4	4	4	1	1	1	-	-	-		CIE	30	100	40	As per BOS Guidelines	-	-		25	10	
2	PCC-CS702	3	3	3	1	1	1	1	2	2		ESE	70						-	-		25
3	PCC-CS703	3	3	3	-	-	-	1	2	2		CIE	30	100	40			50	20		50	20
4	PCE-CS704	3	3	3	1	1	1	-	-	-		ESE	70						-	-		25
5	PCC-CS705	3	3	3	-	-	-	2	4	4		CIE	30	100	40			50	20		50	20
6	PW-CS706	-	-	-	-	-	-	2	4	4		ESE	70						50	20		25
7	WI-CS707	-	-	-	-	-	-	-	-	-		-	-	-	-			-	-		50	20
	<b>TOTAL</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>12</b>	<b>12</b>				<b>400</b>			<b>150</b>			<b>250</b>		
<b>SEMESTER –VIII</b>																						
1	PCC-CS801	4	4	4	-	-	-	1	2	2		CIE	30	100	40	As per BOS Guidelines	50	20		25	10	
2	PCC-CS801	3	3	3	1	1	1	-	-	-		ESE	70									
3	PCE-CS803	4	4	4	1	1	1					CIE	30	100	40					25	10	
4	PCE-CS804	3	3	3	1	1	1	-	-	-		ESE	70						-	-		25
5	PCC-CS805	2	2	2	-	-	-	2	4	4		CIE	30	100	40			50	20		50	20
6	PW-CS806	-	-	-	-	-	-	2	4	4		ESE	70						100	40		25
7	HM-CS807							1	2	2		-	-	-	-					50	20	
	<b>TOTAL</b>	<b>16</b>	<b>16</b>	<b>16</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>6</b>	<b>12</b>	<b>12</b>				<b>400</b>			<b>200</b>			<b>200</b>		
	<b>TOTAL</b>	<b>32</b>	<b>32</b>	<b>32</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>12</b>	<b>24</b>	<b>24</b>				<b>800</b>			<b>350</b>			<b>450</b>		

• Candidate contact hours per week : 30 Hours (Minimum)	• Total Marks for B.E. Sem VII & VIII : <b>800 + 800 = 1600</b>
• Theory and Practical Lectures : 60 Minutes Each	• Total Credits for B.E. Sem VII & VIII : <b>50 (SEM-I: 24 + 1 WI + SEM – II: 25)</b>
• In theory examination there will be a passing based on separate head of passing for examination of CIE and ESE.	
• There shall be separate passing for theory and practical (term work) courses.	

**Note :**

1. **PCC-CS:** Professional Core Course – Computer Science and Engineering are compulsory.
2. **PCE-CS:** Professional Core Elective – Computer Science and Engineering are compulsory.
3. **MC-CS:** Mandatory Course- Computer Science and Engineering are compulsory.
4. **SI-CS:** Summer Internship- Computer Science and Engineering are compulsory.
5. **PW-CS:** Project Work- Computer Science and Engineering are compulsory.

### Semester -VII

Sl. No	Code No.	Subject	Semester	Credits
26.	PCC-CS701	Advanced Computer Architecture	7	5
27.	PCC-CS702	Distributed Systems	7	4
28.	PCC-CS703	Advanced Database Systems	7	4
29.	PCE-CS704	Elective –I	7	4
		Computer Vision		
		Artificial Intelligence		
		Internet of things		
30.	PCC-CS705	Web Technologies –I	7	5
31.	PW-CS706	Project - I	7	2
32.	WI-CS707	Winter Internship	7	

### Semester - VIII

Sl. No	Code No.	Subject	Semester	Credits
27.	PCC-CS801	Data Analytics	8	5
28.	PCC-CS801	Project Management	8	4
29.	PCE-CS803	Elective -II	8	5
		Real Time Operating System		
		Natural Language Processing		
		Human Computer Interface		
30.	PCE-CS804	Elective -III	8	4
		High Performance Computing		
		Parallel Programming		
		Cloud Computing		
31.	PCC-CS505	Web Technologies –II	8	4
32.	PW-CS806	Project - II	8	2
33.	HM-CS807	Community Services	8	1

## Course Wise Credit Distribution

Course code	Definitions	Total Credit	Total Percentage
BSC	BASIC SCIENCE COURSES	16	8.33
PCC	PROFESSIONAL CORE COURSES	115	59.89
MC	MANDATORY COURSE	1	0.52
ESC	ENGINEERING SCIENCE COURSES	28	14.58
PCE	PROFESSIONAL CORE ELECTIVES	13	6.77
SI	SUMMER INTERNSHIP	-	-
MP	MINI PROJECT WORK	2	1.04
PW	PROJECT Work	4	2.08
OEC	OPEN ELECTIVE COURSES	6	3.12
HM	Humanities and Management	7	3.64