

# B.E. /B.Tech in : Computer Science & Business Systems

## Year 1

Semester 1			Teaching Scheme (Hours per week) (Assumption: 15 weeks per semester)			Credit
ID	Cluster	Course	Lecture	Tutorial	Practical	Credit
1.1	SH	Discrete Mathematics (PCC-CS401)	3	1	0	4
1.2	SH	Introductory Topics in Statistics, Probability and Calculus	3	0	0	3
1.3	CS	Fundamentals of Computer Science+ Lab	3	0	4	5
1.4	SH	Principles of Electrical Engineering + Lab	2	0	2	3
1.5	SH	Fundamentals of Physics+ Lab	2	0	2	3
1.6	SH	Business Communication & Value Science - I	2	0	0	2
		Induction Program (Non Credit)				
<b>Total</b>			<b>15</b>	<b>1</b>	<b>8</b>	<b>20</b>

Semester 2			Teaching Scheme (Hours per week) (Assumption: 15 weeks per semester)			Credit
ID	Cluster	Course	Lecture	Tutorial	Practical	Credit
1.7	SH	Linear Algebra	3	1	0	4
1.8	SH	Statistical Methods + Lab	3	1	0	4
1.9	CS	Data Structures & Algorithms (PCC-CS301) + Lab	3	1	4	6
1.10	SH	Principles of Electronics + Lab	2	0	2	3
1.11	SH	Fundamentals of Economics	2	0	0	2
1.12	SH	Business Communication & Value Science – II	2	0	0	2
1.13		Environmental Sciences (Non Credit)				
<b>Total</b>			<b>15</b>	<b>3</b>	<b>6</b>	<b>21</b>

**4 Weeks – Exchange Program among the Participating Institutes\***

## Year 2

Semester 3			Teaching Scheme (Hours per week) (Assumption: 15 weeks per semester)			Credit
ID	Cluster	Course	Lecture	Tutorial	Practical	Credit
2.1	CS	Formal Language and Automata Theory (PCC-CS502)	3	0	0	3
2.2	CS	Computer Organization & Architecture (PCC-CS 402)	3	0	4	5
2.3	CS	Object Oriented Programming (PCC-CS503) + Lab	2	0	4	4
2.4	CS	Computational Statistics + Lab	3	0	2	4
2.5	CS	Software Engineering + Lab	3	0	2	4
2.6		Indian Constitution (Non Credit)				
<b>Total</b>			<b>14</b>	<b>0</b>	<b>12</b>	<b>20</b>

Semester 4			Teaching Scheme (Hours per week) (Assumption: 15 weeks per semester)			Credit
ID	Cluster	Course	Lecture	Tutorial	Practical	Credit
2.8	CS	Operating Systems (PCC-CS-403) + Lab (Unix)	3	0	2	4
2.9	CS	Database Management Systems (PCC-CS503) + Lab	3	0	2	4
2.10	CS	Software Design with UML + Lab	2	0	2	3
2.11	IIE	Introduction to Innovation, IP Management & Entrepreneurship	3	0	0	3
2.12	IIE	Design Thinking	2	0	2	3
2.13	MS	Operations Research + Lab	2	0	2	3
2.14	MS	Marketing Research & Marketing Management	2	0	0	2
2.15		Essence of Indian Traditional Knowledge (Non Credit)				
<b>Total</b>			<b>17</b>	<b>0</b>	<b>10</b>	<b>22</b>

**4 Weeks – Exchange Program among the Participating Institutes**

## Year 3

Semester 5			Teaching Scheme (Hours per week) (Assumption: 15 weeks per semester)			Credit
ID	Cluster	Course	Lecture	Tutorial	Practical	Credit
3.1	CS	Design And Analysis of Algorithms (PCC-CS 404) + Lab	3	0	4	5
3.2	CS	Compiler Design (PCC-CS 601) + Lab (LEX & YACC)	3	0	4	5
3.3	MS	Fundamentals of Management	2	0	0	2
3.4	MS	Business Strategy	2	0	0	2
3.5	SH	Business Communication & Value Science – III	2	0	0	2
3.6		Elective II**	3	0	2	4
3.7		Elective I + Lab**	2	1	2	4
3.8		Mini Project	0	0	2	1
<b>Total</b>			<b>17</b>	<b>1</b>	<b>14</b>	<b>25</b>

Semester 6			Teaching Scheme (Hours per week) (Assumption: 15 weeks per semester)			Credit
ID	Cluster	Course	Lecture	Tutorial	Practical	Credit
3.8	CS	Computer Networks (PCC-CS602) + Lab	3	0	4	5
3.9	CS	Information Security + Lab	3	0	2	4
3.10	DS	Artificial Intelligence + Lab	3	0	2	4
3.11	MS	Financial & Cost Accounting	2	0	0	2
3.12	SH	Business Communication & Value Science – IV	2	0	2	3
3.13		Elective IV + Lab**	3	0	2	4
3.14		Elective III + Lab**	2	0	2	3
<b>Total</b>			<b>18</b>	<b>0</b>	<b>14</b>	<b>25</b>
<b><i>Industrial Project (6-8 weeks)</i></b>						

## Year 4

Semester 7			Teaching Scheme (Hours per week) (Assumption: 15 weeks per semester)			Credit
ID	Cluster	Course	Lecture	Tutorial	Practical	Credit
4.1	DTS	Usability Design of Software Applications + Lab	2	0	1	2.5
4.2	CS	IT Workshop Skylab / Matlab (PCC-CS 302) + Lab	1	0	4	3
4.3	MS	Financial Management	2.5	0	0	2.5
4.4	MS	Human Resource Management	2	0	0	2
4.5		Elective V**	2	1	2	4
4.6		Elective VI+ Lab**	2	1	2	4
4.7	MS	Services Science & Service Operational Management + Lab	3	0	2	4
4.8	MS	IT Project Management + Lab	3	0	2	4
<b>Total</b>			<b>17.5</b>	<b>2</b>	<b>13</b>	<b>26</b>

Semester 8			Teaching Scheme (Hours per week) (Assumption: 15 weeks per semester)			Credit
ID	Cluster	Course	Lecture	Tutorial	Practical	Credit
4.9		Project Evaluation I	0	0	2	1
<b>Total</b>			<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>

**\* Note:**

1. Exchange Program is optional
2. To be mutually decided between participating institutes
3. TCS will have no role to play in the exchange program

**Total Credit      160**

**\*\* Note:**

Please refer to the tab - Electives (160 Credit) for details on the elective subjects offered

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*Please Note: Students can select only one elective out of three options offered*

Year 3		
Semester 5		
<b>Elective I</b>	DTS	Coversational Systems
	DTS	Cloud, Microservices & Application
	DTS	Machine Learning
<b>Elective II</b>	SH	Behavioral Economics
	MS	Computational Finance & Modeling
	SH	Psychology
Semester 6		
<b>Elective III</b>	DTS	Robotics and Embedded Systems
	DTS	Modern Web Applications
	DS	Data Mining and Analytics
<b>Elective IV</b>	DTS	Enterprise Systems
	MS	Advance Finance
	DTS	Image Processing and Pattern
Year 4		
Semester 7		
<b>Elective V</b>	DS	Cognitive Science & Analytics
	DTS	Introduction to IoT
	DS	Cryptology
<b>Elective VI</b>	CS	Quantum Computation & Quantum
	DS	Advanced Social, Text and Media
	DTS	Mobile Computing