

**Syllabus Structure**  
**for**  
**Computer Science and Systems Engineering**

**KIIT UNIVERSITY**  
**Bhubaneswar**  
**School of Computer Engineering (BTech-CSSE)**

**SEMESTER I**

<b>Theory</b>							
<b>Sl. No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	<b>Credit</b>
1.	MA-1001	Mathematics – I	3	1	0	4	4
2.	PH-1003	Physics	3	1	0	4	4
3.	CS-1001	Programming in C	3	0	0	3	3
4.	EE-1003	Basic Electrical Engineering	3	0	0	3	3
5.	ME-1001	Engineering Mechanics	3	1	0	4	4
<b>Total of Theory</b>						<b>18</b>	<b>18</b>
<b>Practical</b>							
1.	PH-1093	Physics Lab	0	0	3	3	2
2.	EE-1093	Basic Electrical Engineering Lab	0	0	3	3	2
3.	CS-1091	Programming Lab in C	0	0	3	3	2
<b>Sessional</b>							
1.	CE-1081	Engineering Graphics	0	0	3	3	2
<b>Total practical &amp; sessional</b>						<b>12</b>	<b>8</b>
<b>Grand Total</b>						<b>30</b>	<b>26</b>

**SEMESTER II**

<b>Theory</b>							
<b>Sl. No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	<b>Credit</b>
1.	MA-1002	Mathematics – II	3	1	0	4	4
2.	IT-1002	Object Oriented Programming	3	0	0	3	3
3.	CH-1003	Chemistry	3	0	0	3	3
4.	EC-1001	Basic Electronics	3	0	0	3	3
5.	HS-1003	Professional Communication	2	0	0	2	2
6.	CH-1005	Environmental Science	2	0	0	2	2
<b>Total of Theory</b>						<b>17</b>	<b>17</b>
<b>Practical</b>							
1.	CH-1093	Chemistry Lab	0	0	3	3	2
2.	EC-1091	Basic Electronics Lab	0	0	3	3	2
3.	IT-1092	Object Oriented Programming	0	0	3	3	2
<b>Sessional</b>							
1.	ME-1081	Basic Manufacturing Systems	0	0	3	3	2
2.	HS-1083	Language Lab	0	0	2	2	1
<b>Total practical &amp; sessional</b>						<b>14</b>	<b>9</b>
<b>Grand Total</b>						<b>31</b>	<b>26</b>
3.	EAA – 1	Extra Academic Activity					P/N

**SEMESTER III**

<b>Theory</b>							
<b>Sl No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	<b>Credits</b>
1	MA-2003	Discrete Mathematics	3	1	0	4	4
2	CS-2001	Data Structures & Algorithms	3	1	0	4	4
3	IT-2003	Web Technology	3	1	0	4	4
4	MA-2001	Mathematics-III	3	1	0	4	4
5	EC-2011	Digital Electronics	3	0	0	3	3
6	EC-2005	Semiconductor Devices	3	0	0	3	3
<b>Total of Theory</b>						<b>22</b>	<b>22</b>
<b>Practical</b>							
1	CS-2091	Data Structures Lab	0	0	3	3	2
2	IT-2093	Web Technology Lab	0	0	3	3	2
3	EC-2093	Digital Electronics Lab	0	0	3	3	2
<b>Total of Practical</b>						<b>9</b>	<b>6</b>
<b>Grand Total</b>						<b>31</b>	<b>28</b>

**SEMESTER IV**

<b>Theory</b>							
<b>Sl. No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	<b>Credit</b>
1	CS-2006	Computer Organization and Architecture	3	1	0	4	4
2	CS-2008	Design & Analysis of Algorithms	3	1	0	4	4
3	MA-2002	Mathematics- IV	3	1	0	4	4
4	CS-2004	Database Management Systems	3	1	0	4	4
5		Institute Elective - 1	3	0	0	3	3
<b>Total of Theory</b>						<b>19</b>	<b>19</b>
<b>Practical</b>							
1	CS-2098	COA Lab	0	0	3	3	2
2	CS-2094	DBMS Lab	0	0	3	3	2
3	CS-2096	Design & Analysis of Algorithms Lab	0	0	3	3	2
<b>Sessional</b>							
1	HS -2081	Business Communication	0	0	3	3	2
<b>Total practical &amp; sessional</b>						<b>12</b>	<b>8</b>
<b>Grand Total</b>						<b>31</b>	<b>27</b>

**SEMESTER V**

<b>Theory</b>							
<b>SI No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	<b>Credits</b>
1	EC-3003	Microprocessors & Microcontrollers	3	1	0	4	4
2	IT-3003	Software Engineering	3	1	0	4	4
3	IT-3001	Computer Networks	3	1	0	4	4
4	CS-3007	High Performance Computer Architecture	3	1	0	4	4
5	CS-3009	Operating Systems	3	1	0	4	4
<b>Total of Theory</b>						<b>20</b>	<b>20</b>
<b>Practical</b>							
1	EC-3093	Microprocessor & Microcontroller Lab	0	0	3	3	2
2	IT-3091	Computer Networks Lab	0	0	3	3	2
3	CS-3091	Operating Systems Lab	0	0	3	3	2
<b>Sessional</b>							
1	TP-3081	Cognitive Aptitude Test-I	0	0	2	2	1
<b>Total practical &amp; sessional</b>						<b>11</b>	<b>7</b>
<b>Grand Total</b>						<b>31</b>	<b>27</b>

**SEMESTER VI**

<b>Theory</b>							
<b>SI No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	<b>Credits</b>
1	EC-3022	Advanced Microprocessors	3	0	0	3	3
2	CS-3024	Distributed Operating Systems	3	0	0	3	3
3	CS-3002	Compiler Design	3	1	0	4	4
4	EC-3011	VLSI Design	3	0	0	3	3
5		Department Elective-I	3	0	0	3	3
6		Open Elective-I	3	0	0	3	3
<b>Total of Theory</b>						<b>19</b>	<b>19</b>
<b>Practical</b>							
1	CS-3092	Compiler Design Laboratory	0	0	3	3	2
2	EC-3095	VLSI Lab	0	0	3	3	2
<b>Sessional</b>							
1	CM-3082	Minor Project	0	0	3	3	2
2	TP-3082	Cognitive Aptitude Test-II			2	2	1
<b>Total practical &amp; sessional</b>						<b>11</b>	<b>7</b>
<b>Grand Total</b>						<b>30</b>	<b>26</b>

**SEMESTER VII**

<b>Theory</b>							
<b>SI No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	<b>Credits</b>
1		Dept.Elective-II	3	0	0	3	3
2		Dept.Elective-III	3	0	0	3	3
3		Dept.Elective-IV	3	0	0	3	3
4		Institute Elective-II	3	0	0	3	3
5		Open Elective - II	3	0	0	3	3
<b>Total of Theory</b>						<b>15</b>	<b>15</b>
<b>Sessional</b>							
1	CM-4081	Major Project (part 1)	0	0	3	3	2
2	CM-4083	Practical Training	-	-	-	-	2
<b>Total sessional</b>						<b>3</b>	<b>4</b>
<b>Grand Total</b>						<b>18</b>	<b>19</b>

**SEMESTER VIII**

<b>Theory</b>							
<b>SI No</b>	<b>Course Code</b>	<b>Course Title</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>Total</b>	<b>Credits</b>
1		Dept.Elective-V	3	0	0	3	3
2		Open Elective - III	3	0	0	3	3
<b>Total of Theory</b>						<b>6</b>	<b>6</b>
<b>Sessional</b>							
1	CM-4082	Major Project (part 2)	0	0	9	9	6
2	CM-4084	Seminar	0	0	3	3	2
3	CM-4086	General Viva Voce	-	-	-	-	2
<b>Total of Sessional</b>						<b>12</b>	<b>10</b>
<b>Grand Total</b>						<b>18</b>	<b>16</b>

### Electives Offered by School of Computer Engineering

<b>Dept. Elective - I</b>			
<b>Sl No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credit</b>
1	IT-3032	Object Oriented Systems	3
2	CS-3022	Parallel and Distributed Computing	3
3	IT-3022	Cloud Computing	3
4	IT-3024	Mobile Computing	3
5	CS-3032	Big Data	3
<b>Dept. Elective – II</b>			
<b>Sl No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credit</b>
1	CS-3046	Introduction to Computer Graphics	3
2	CS-4027	Real-time Systems	3
3	IT-4021	Internet of Things	3
4	CS-3026	Distributed Database Systems	3
5	EC-3024	Embedded Systems	3
<b>Dept. Elective – III</b>			
<b>Sl No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credit</b>
1	CS-4031	Software Testing	3
2	CS-3034	Service Oriented Architecture	3
3	IT-4027	Software Project Management	3
4	IT-4029	Management Information System	3
5	IT-3029	Software Design and Validation	3
<b>Dept. Elective – IV</b>			
<b>Sl No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credit</b>
1	IT-4031	Information Retrieval	3
2	IT-4033	Natural Language Processing	3
3	CS-4043	Machine Learning	3
4	CS-3030	Computational Intelligence	3
5	CS-3028	Artificial Intelligence	3
<b>Dept. Elective – V</b>			
<b>Sl No.</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Credit</b>
1	IT-4022	Cyber Law and Intellectual Property Right	3
2	IT-4024	Computer Security	3
3	IT-4026	Network Security	3
4	IT-4028	Cyber Security	3
5	EC-6108	Digital Image Processing	3

**Credit Detail**

<b>Semester</b>	<b>Credit</b>	<b>Credit year wise</b>
1 <sup>st</sup>	26	<b>52</b>
2 <sup>nd</sup>	26	
3 <sup>rd</sup>	28	<b>55</b>
4 <sup>th</sup>	27	
5 <sup>th</sup>	27	<b>53</b>
6 <sup>th</sup>	26	
7 <sup>th</sup>	19	<b>35</b>
8 <sup>th</sup>	16	
<b>Total</b>		<b>195</b>

