

# **Semester Wise Course Distribution of B.Sc. in Computer Science and Engineering (HSC pass students)**



**Updated and Submitted by:**  
Syllabus Committee (CSE Department)

**Degree Requirements:**

The B.Sc. in Computer Science and Engineering degree program requires minimum of **162** credits in about 4 years (12 Semesters) to complete.

**Total course requirements for degree program are as follows:**

<b>SUMMARY OF COURSE CURRICULMN</b>					
<b>Sl. No.</b>	<b>Group</b>	<b>Theory</b>	<b>Sessional</b>	<b>Thesis</b>	<b>Credit Hr.</b>
1.	General Education	24.00 (8 Courses)	-----	-----	24.00
2.	Mathematics	12.00 (4 Courses)	-----	-----	12.00
3.	Computer Science	48.00 (12 Courses)	18.00 (12 Courses)	-----	66.00
4.	Computer Engineering	30.00 (10 Courses)	15.00 (10 Courses)	-----	45.00
5.	Project/ Thesis	-----	-----	6.00 (1 Course)	6.00
6.	Option I	3.00 (1 Course)	1.50 (1 Course)	-----	4.50
7.	Option II	3.00 (1 Course)	1.50 (1 Course)	-----	4.50
	<b>Total</b>	<b>120</b>	<b>36</b>	<b>6.00</b>	<b>162</b>

## Semester Wise Course Distribution

<b>Level1 – Term1 (Semester-01)</b>						
<b>SL</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Type of Course</b>	<b>Contact Hour</b>	<b>Credit Hr.</b>	<b>Pre-Requisite</b>
1.	HUM 111	English I (English Fundamentals)	Theory	3	3.00	
2.	CSE 111	Introduction to Computer Science	Theory	3	3.00	
3.	CSE 113	Structured Programming Language	Theory	3	3.00	
4.	CSE 114	Structured Programming Language Sessional	Sessional	3	1.50	
5.	MATH 111	Mathematics I (Differential and Integral Calculus)	Theory	3	3.00	
<b>Total</b>				<b>15</b>	<b>13.5</b>	

<b>Level1 – Term2 (Semester-02)</b>						
<b>SL</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Type of Course</b>	<b>Contact Hour</b>	<b>Credit Hr.</b>	<b>Pre-Requisite</b>
6.	HUM 121	English II (Business English)	Theory	3	3.00	HUM 111
7.	CSE 121	Object-Oriented Programming I	Theory	3	3.00	CSE 113
8.	CSE 122	Object-Oriented Programming I Sessional	Sessional	3	1.50	CSE 114
9.	PHY 121	Principles of Physics I	Theory	3	3.00	
10.	MATH 121	Mathematics II (Matrices, Vectors & Coordinate Geometry)	Theory	3	3.00	MATH 111
<b>Total</b>				<b>15</b>	<b>13.5</b>	

<b>Level1 – Term3 (Semester-03)</b>						
<b>SL</b>	<b>Course Code</b>	<b>Course Title</b>	<b>Type of Course</b>	<b>Contact Hour</b>	<b>Credit Hr.</b>	<b>Pre-Requisite</b>
11.	EEE 131	Electrical Engineering and Circuit Analysis	Theory	3	3.00	
12.	EEE 132	Electrical Engineering and Circuit Analysis Sessional	Sessional	3	1.50	
13.	CSE 131	Discrete Mathematics	Theory	3	3.00	
14.	PHY 131	Principles of Physics II	Theory	3	3.00	PHY 121
15.	MATH 131	Mathematics III (Linear Algebra, Ordinary and Partial Differential Equation)	Theory	3	3.00	MATH 121
<b>Total</b>				<b>15</b>	<b>13.5</b>	

### Level2 – Term1 (Semester-04)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
16.	CSE 211	Data Structure	Theory	3	3.00	CSE 121
17.	CSE 212	Data Structure Sessional	Sessional	3	1.50	CSE 122
18.	CSE 213	Digital Logic Design	Theory	3	3.00	
19.	CSE 214	Digital Logic Design Sessional	Sessional	3	1.50	
20.	MATH 211	Mathematics IV (Complex Variable & Laplace Transform)	Theory	3	3.00	MATH 131
21.	HUM 211	Economics	Theory	3	3.00	
<b>Total</b>				<b>18</b>	<b>15</b>	

### Level2 – Term2 (Semester-05)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
22.	CSE 221	Algorithms	Theory	3	3.00	CSE 211
23.	CSE 222	Algorithms Sessional	Sessional	3	1.50	CSE 212
24.	EEE 223	Electronic Engineering	Theory	3	3.00	EEE 131
25.	EEE 224	Electronic Engineering Sessional	Sessional	3	1.50	EEE 132
26.	Hum 221	Society & Technology	Theory	3	3.00	
27.	CSE 313	Theory of Computation	Theory	3	3.00	CSE131
<b>Total</b>				<b>15</b>	<b>15</b>	

### Level2 – Term3 (Semester-06)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
28.	CSE 231	Database Management System	Theory	3	3.00	
29.	CSE 232	Database Management System Sessional	Sessional	3	1.50	
30.	CSE 233	Digital Electronics & Pulse Techniques	Theory	3	3.00	CSE 213
31.	CSE 234	Digital Electronics & Pulse Techniques Sessional	Sessional	3	1.50	CSE 214
32.	IPE 231	Industrial Management and	Theory	3	3.00	

		Law				
33.	CSE 236	Web Programming Sessional	Sessional	3	1.50	
<b>Total</b>				<b>18</b>	<b>13.5</b>	

### Level3 – Term1 (Semester-07)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
34.	CSE 311	Microprocessor & Assembly Language Programming	Theory	3	3.00	
35.	CSE 312	Microprocessor & Assembly Language Programming Sessional	Sessional	3	1.50	
36.	CSE 315	Computer Architecture	Theory	3	3.00	
37.	CSE 317	Data Communications	Theory	3	3.00	
38.	Hum 311	Accounting	Theory	3	3.00	
<b>Total</b>				<b>15</b>	<b>13.5</b>	

### Level3 – Term2 (Semester-08)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
39.	CSE 321	Operating System	Theory	3	3.00	CSE 221
40.	CSE 322	Operating System Sessional	Sessional	3	1.50	CSE 222
41.	CSE 323	Compiler Design	Theory	3	3.00	CSE 313
42.	CSE 324	Compiler Design Sessional	Sessional	3	1.50	
43.	CSE 325	Numerical Methods	Theory	3	3.00	MATH 131
44.	CSE 326	Numerical Methods Sessional	Sessional	3	1.50	
<b>Total</b>				<b>18</b>	<b>13.5</b>	

### Level3 – Term3 (Semester-09)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
45.	CSE 331	Computer Networks	Theory	3	3.00	CSE 317
46.	CSE 332	Computer Networks Sessional	Sessional	3	1.50	
47.	CSE 333	State of Art Programming	Theory	3	3.00	CSE 121
48.	CSE 334	State of Art Programming Sessional	Sessional	3	1.50	CSE 122
49.	CSE 335	Computer Peripherals and Interfacing	Theory	3	3.00	CSE 311

50.	CSE 336	Computer Peripherals and Interfacing Sessional	Sessional	3	1.50	CSE 312
<b>Total</b>				<b>18</b>	<b>13.5</b>	

### Level4 – Term1 (Semester-10)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
51.	CSE 411	Information System Analysis & Design	Theory	3	3.00	CSE 231
52.	CSE 412	Technical Writing and Seminar	Sessional	3	1.50	
53.	CSE 413	Computer Graphics	Theory	3	3.00	
54.	CSE 414	Computer Graphics Sessional	Sessional	3	1.50	
55.	CSE 415	Artificial Intelligence	Theory	3	3.00	
56.	CSE 416	Artificial Intelligence Sessional	Sessional	3	1.50	
<b>Total</b>				<b>21</b>	<b>15</b>	

### Level4 – Term2 (Semester-11)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
57.	CSE 400	Project and Thesis		3	3.00*	
58.	CSE 421	Software Engineering	Theory	3	3.00	CSE 411
59.	CSE 423	Simulation and Modeling	Theory	3	3.00	
60.	CSE 424	Simulation and Modeling Sessional	Sessional	3	1.50	
61.	CSE XXX	Option-I Theory	Theory	3	3.00	
62.	CSE XXX	Option-I Sessional	Sessional	3	1.50	
<b>Total</b>				<b>18</b>	<b>15</b>	

**\*Credit Transferred to Level4-Term3**

### Level4 – Term3 (Semester-12)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.	Pre-Requisite
63.	CSE 400	Project and Thesis		3	6.00*	

64.	CSE 438	Mobile Application Development Sessional	Theory	3	1.50	CSE 122
65.	CSE XXX	Option-II Theory	Theory	3	3.00	
66.	CSE XXX	Option-II Sessional	Sessional	3	1.50	
<b>Total</b>				<b>12</b>	<b>12*</b>	

**\*3 Credit Added from Level4-Term2**

**Total credit hours: 162 Cr. Hrs. (One hundred sixty-two credit hours).**

### Option-I (Any One Pair)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.
67.	CSE 425	Pattern Recognition	Theory	3	3.00
68.	CSE 426	Pattern Recognition Sessional	Sessional	1.5	1.50
69.	CSE 427	Neural Network	Theory	3	3.00
70.	CSE 428	Neural Network Sessional	Sessional	1.5	1.50

### Option-II (Any One Pair)

SL	Course Code	Course Title	Type of Course	Contact Hour	Credit Hr.
71.	CSE 431	Image Processing and Computer Vision	Theory	3	3.00
72.	CSE 432	Image Processing and Computer Vision Sessional	Sessional	1.5	1.50
73.	CSE 433	Network Programming	Theory	3	3.00
74.	CSE 434	Network Programming Sessional	Sessional	1.5	1.50
75.	CSE 435	Advanced DBMS	Theory	3	3.00
76.	CSE 436	Advanced DBMS Sessional	Sessional	1.5	1.50