

**DEPARTMENT OF INFORMATION TECHNOLOGY**  
**COURSE STRUCTURE FOR BTECH (IT) UNDER AUTONOMOUS STATUS**  
**With effect from Admitted Batch 2015**

<b>FIRST YEAR SEMESTER – I</b>										
Code No	Subject	Category	Periods				Sessional Marks	External Marks	Total Marks	Credits
			Lecture	Tutorial	Practical	Total				
IT111	English	HS	3	1	-	4	40	60	100	3
IT112	Engineering Mathematics-I	BS	3	1	-	4	40	60	100	3
IT113	Engineering Chemistry	BS	3	1	-	4	40	60	100	3
IT114	Professional Ethics & Human Values	HS	2	1	-	3	100	-	100	2
IT115	Basics of Electronics Engineering	ES	3	1	-	4	40	60	100	3
IT116	Engineering Chemistry Lab	BS	-	-	3	3	50	50	100	2
IT117	Programming with C Lab	ES	2	0	3	5	50	50	100	3
ITAC 1	NCC/NSS/SPORTS				3	3				
<b>TOTAL</b>			<b>16</b>	<b>5</b>	<b>9</b>	<b>30</b>	<b>360</b>	<b>340</b>	<b>700</b>	<b>19</b>

<b>FIRST YEAR SEMESTER – II</b>										
Code No	Subject	Category	Periods				Sessional Marks	External Marks	Total Marks	Credits
			Lecture	Tutorial	Practical	Total				
IT121	Engineering Mathematics-II	BS	3	1	-	4	40	60	100	3
IT122	Engineering Physics	BS	3	1	-	4	40	60	100	3
IT123	Environmental Science	BS	3	1	-	4	40	60	100	3
IT124	Engineering Drawing	ES	1	-	3	4	40	60	100	3
IT125	Elements of Electrical Engineering	ES	3	1	-	4	40	60	100	3
IT126	Engineering Physics lab	BS	-	-	3	3	50	50	100	2
IT127	Language lab	HS	-	-	3	3	50	50	100	2
IT128	Object Oriented Programming with C++ Lab	ES	2	0	3	5	50	50	100	3
IT129	Workshop	ES	-	-	3	3	50	50	100	2
ITAC2	NCC/NSS/SPORTS				3	3				
<b>TOTAL</b>			<b>15</b>	<b>4</b>	<b>18</b>	<b>37</b>	<b>400</b>	<b>500</b>	<b>900</b>	<b>24</b>
<b>FIRST SEM , SECOND SEM COMMON FOR CSE &amp; IT DEPARTMENTS</b>										

SECOND YEAR SEMESTER – I										
Code No	Subject	Category	Periods				Sessional Marks	External Marks	Total Marks	Credits
			Lecture	Tutorial	Practical	Total				
IT211	Data Structures	PC	4	1	-	5	40	60	100	4
IT212	Digital Logic Design	ES	3	1	-	4	40	60	100	3
IT213	Discrete Mathematical Structures	BS	4	1	-	5	40	60	100	4
IT214	Computer Organization	PC	4	1	-	5	40	60	100	4
IT215	Data Communications	PC	3	1	-	4	40	60	100	3
IT216	Data Structures Lab	PC	-	-	3	3	50	50	100	2
IT217	Digital Electronics lab	ES	-	-	3	3	50	50	100	2
IT218	Python Programming Lab	PC	-	1	3	4	50	50	100	3
<b>TOTAL</b>			<b>18</b>	<b>6</b>	<b>9</b>	<b>33</b>	<b>350</b>	<b>450</b>	<b>800</b>	<b>25</b>

SECOND YEAR SEMESTER – II										
Code No	Subject	Category	Periods				Sessional Marks	External Marks	Total Marks	Credits
			Lecture	Tutorial	Practical	Total				
IT221	Computer Networks	PC	3	1	-	4	40	60	100	3
IT222	Information System Design	PC	3	1	-	4	40	60	100	3
IT223	Operating Systems	PC	4	1	-	5	40	60	100	4
IT224	Probability Statistics & Queuing Theory	BS	4	1	-	5	40	60	100	4
IT225	Computer Graphics & Multimedia	PC	3	1	-	4	40	60	100	3
IT226	Networking Lab	PC	-	-	3	3	50	50	100	2
IT227	Computer Graphics & Multimedia Lab	PC	-	-	3	3	50	50	100	2
IT228	Operating Systems (Linux) Lab	PC	-	-	3	3	50	50	100	2
<b>TOTAL</b>			<b>17</b>	<b>5</b>	<b>9</b>	<b>31</b>	<b>350</b>	<b>450</b>	<b>800</b>	<b>23</b>

THIRD YEAR SEMESTER – I										
Code No	Subject	Category	Periods				Sessional Marks	External Marks	Total Marks	Credits
			Lecture	Tutorial	Practical	Total				
IT311	Object Oriented Programming through JAVA	PC	3	1	-	4	40	60	100	3
IT312	Database Management Systems	PC	3	1	-	4	40	60	100	3
IT313	Unix Network Programming	PC	3	1	-	4	40	60	100	3
IT314	Formal Languages Automata Theory	PC	4	1	-	5	40	60	100	4
IT315	<b>* Open Elective-1</b>	OE	3	1	-	4	40	60	100	3
IT316	Unix Network Programming Lab	PC	-	-	3	3	50	50	100	2
IT317	Java Programming Lab	PC	-	-	3	3	50	50	100	2
IT318	Database Management Systems Lab	PC	-	-	3	3	50	50	100	2
IT319	Quantitative Aptitude - 1 & Verbal Aptitude – 1	HS	4	-	-	4	100	-	100	2
<b>TOTAL</b>			<b>20</b>	<b>5</b>	<b>9</b>	<b>34</b>	<b>450</b>	<b>450</b>	<b>900</b>	<b>24</b>

THIRD YEAR SEMESTER – II										
Code No	Subject	Category	Periods				Sessional Marks	External Marks	Total Marks	Credits
			Lecture	Tutorial	Practical	Total				
IT321	Compiler Design	PC	4	1	-	5	40	60	100	4
IT322	Design & Analysis of Algorithms	PC	4	1	-	5	40	60	100	4
IT323	Object Oriented Analysis and Design with UML	PC	3	1	-	4	40	60	100	3
IT324	Mobile computing	PC	3	1	-	4	40	60	100	3
IT325	<b>Professional Elective-I</b>	PE	4	1	-	5	40	60	100	4
IT326	Mobile computing Lab	PC	-	-	3	3	50	50	100	2
IT327	Web based open source technologies Lab	PC	-	1	3	4	50	50	100	3
IT328	Computer Aided Software Engineering tools lab	PC	-	-	3	3	50	50	100	2
IT329	Soft Skills lab	HS	-	-	3	3	100	-	100	2
IT3210	Quantitative Aptitude-2 & Verbal Aptitude – 2	HS	4	-	-	4	100	-	100	2
<b>TOTAL</b>			<b>22</b>	<b>6</b>	<b>12</b>	<b>40</b>	<b>550</b>	<b>450</b>	<b>1000</b>	<b>29</b>

FOURTH YEAR SEMESTER – I										
Code No	Subject	Category	Periods				Sessional Marks	External Marks	Total Marks	Credits
			Lecture	Tutorial	Practical	Total				
IT411	Data Analytics	PC	3	1	-	4	40	60	100	3
IT412	Cryptography & Network Security	PC	3	1	-	4	40	60	100	3
IT413	* Open-Elective-II	PE	3	1	-	4	40	60	100	3
IT414	Professional Elective – II	SE	4	1	-	5	40	60	100	4
IT415	Professional Elective – III	PE	4	1	-	5	40	60	100	4
IT416	Analytics Lab	PC	-	-	3	3	50	50	100	2
IT417	Network Security Lab	PC	-	-	3	3	50	50	100	2
IT418	PROJECT I	PW	-	-	6	6	100	-	100	4
IT419	# Industrial Training	IT	-	-	-	-	-	100	100	2
<b>TOTAL</b>			<b>17</b>	<b>5</b>	<b>12</b>	<b>34</b>	<b>400</b>	<b>500</b>	<b>900</b>	<b>27</b>

# Assessment done based on the industrial training taken after Third Year Semester - II

FOURTH YEAR SEMESTER – II										
Code No	Subject	Category	Periods				Sessional Marks	External Marks	Total Marks	Credits
			Lecture	Tutorial	Practical	Total				
IT421	Professional Elective – IV	PE	4	1	-	5	40	60	100	4
IT422	Professional Elective – V	PE	4	1	-	5	40	60	100	4
IT423	PROJECT II	PW	-	-	9	9	100	100	200	8
IT424	Massive Open Online Course	OOO	-	-	-	-	100	-	-	2
<b>TOTAL</b>			<b>8</b>	<b>2</b>	<b>9</b>	<b>19</b>	<b>280</b>	<b>220</b>	<b>500</b>	<b>18</b>
<b>TOTAL CREDITS</b>										<b>189</b>

- Students are enabled for self-learning outside the class rooms through Academic activities , Extra/Co-Curricular activities / NSS/NCC/Sports.
- Academic activities I- Paper Presentation, Participation in Programming/coding contests.

Professional Elective –I	Professional Elective-II	Professional Elective-III	Professional Elective-IV	Professional Elective-V
Operation Research	Artificial Intelligence	Machine Learning	Image Processing	Soft computing
Database Administration	Database Storage Management	Advanced Data base Management System	Data Mining	Advances in Data Mining
IT Infrastructure and Management	Distributed Operating System	Ethical Hacking	Parallel Computing	Cloud Computing
Principles of Programming Language	User Interface Design	Client Server Technologies	Human Computer Interaction	E-commerce

#### OPEN ELECTIVES I & II

SNO	NAME OF THE COURSE	NAME OF THE DEPARTMENT OFFERING THE COURSE
1	Essentials of Information Technology	Department of Information Technology
2	Foundations of Web Development & Design	
3	IT Infrastructure & Management	
4	Data Structures	
5	Multimedia Concepts	
6	Principles of Ethical Hacking	
7	Open Source Technologies	
8	Database Management Systems	
9	Operating Systems	
10	Software Engineering	
11	Computer Operating Systems	Department of Computer Science & Engineering
12	Cloud Computing overview	
13	Introduction to soft computing	
14	Concepts of Object Oriented Programming	
15	Database Management Systems	
16	Fundamentals of Computer Networks	
17	Web Designing	
18	Robotics	Department of Mechanical Engineering
19	Finite Element Analysis	
20	Computer Aided Design	

21	Operations Research	
22	Rain water Harvesting	Department of Civil Engineering
23	Earth Quake Resistant Design of Structures	
24	Disaster management and Mitigation	
25	Environmental Impact Analysis	
26	Urban planning and sustainable Development	
27	Industrial Safety & Hazards Management	
28	Theoretical Biology	
29	Fuel Cell Technology	
30	Design of Experiments	
31	Food Processing Technology	
32	Corrosion Engineering	
33	Computational Tools for Engineering	
34	Modeling and Optimization	
35	Renewable Energy Technologies	Department of Electrical & Electronics Engineering
36	Fundamentals of Electric Power Utilization	