

CURRICULUM FOR B.TECH IN INFORMATION TECHNOLOGY

Semester I (First year)

Mandatory Induction Program- 3 weeks duration							
Sl No.	Type of course	Code	Course Title	Total Number of contact hours			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Basic Science course	BS-PH101	Physics-I	3	1	0	4
2	Basic Science course	BS-M101	Mathematics –IA	3	1	0	4
3	Engineering Science Courses	ES-EE101	Basic Electrical Engineering	3	1	0	4
<i>Total Theory</i>				9	3	0	12
Practical							
1	Basic Science course	BS-PH191	Physics-I Laboratory	0	0	3	1.5
2	Engineering Science Courses	ES-EE191	Basic Electrical Engineering Laboratory	0	0	2	1
3	Engineering Science Courses	ES-ME191	Workshop	1	0	4	3
<i>Total Practical</i>				1		9	5.5
Total credits				10	3	9	17.5

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Semester II (First year)

Sl No.	Type of course	Code	Course Title	Total Number of contact hours			Credits
				Lecture	Tutorial	Practical	
Theory							
1	Basic Science courses	BS-CH201	Chemistry-I	3	1	0	4
2	Basic Science courses	BS-M202	Mathematics -IIA	3	1	0	4
3	Engineering Science Courses	ES-CS201	Programming for Problem Solving	3	0	0	3
4	Humanities and Social Sciences including Management courses	HM-HU201	English	2	0	0	2
<i>Total Theory</i>				11	2	0	13
Practical							
1	Basic Science courses	BS-CH291	Chemistry-I Laboratory	0	0	3	1.5
2	Engineering Science Courses	ES-CS291	Programming for Problem Solving	0	0	4	2
3	Engineering Science Courses	ES-ME291	Engineering Graphics & Design	1	0	4	3
4	Humanities and Social Sciences including Management courses	HM-HU291	Language Laboratory	0	0	2	1
<i>Total Practical</i>				1	0	13	7.5
Total credits				12	2	13	20.5

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Semester III (Second year)

Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
1	Engineering Science Course	ESC-301	Digital Electronics	3	0	4	5
2	Professional Core Courses	PCC-IT301	Data Structure & Algorithms	3	0	4	5
3	Engineering Science Course	ESC302	Signals & System	3	0	0	3
4	Professional Core Courses	PCC-IT302	IT Workshop (Sci Lab/R)	0	0	4	2
5	Basic Science course	BSC-301	Mathematics-III	2	0	0	2
6	Basic Science course	BSC-302	Biology	3	0	0	3
Total credits							20

Semester IV (Second year)

Sl. No	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
1	Professional Core Courses	PCC-IT401	Discrete Mathematics	3	1	0	4
2	Engineering Science Course	PCC-IT402	Computer Organization & Architecture	3	0	4	5
3	Professional Core Courses	PCC-IT403	Formal Language & Automata Theory	3	0	0	3
4	Professional Core Courses	PCC-IT404	Communication Engineering	3	0	4	5
5	Humanities & Social Sciences including Management courses	HSMC-401	Economics For Engineers	3	0	0	3
6	Mandatory Courses	MC-401	Environmental Sciences	1	-	-	1
Total credits							21

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Semester V (Third year)

Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
1	Professional Core Courses	PCC-IT501	Design Analysis & Algorithm	3	0	4	5
2	Professional Core Courses	PCC-IT502	DBMS	3	0	4	5
3	Professional Core Courses	PCC-IT503	Operating Systems	3	0	4	5
4	Professional Core Courses	PCC-IT504	Object Oriented Programming with Python	2	0	4	4
5	Humanities & Social Sciences including Management courses	HSMC-501	Introduction to Industrial Management (Humanities III)	3	0	0	3
6	Professional Elective courses	PEC-IT501	(Elective-I) Human Computer Interaction / Advanced Computer Architecture/ Computer Graphics	3	0	0	3
7	Mandatory Courses	MC-IT501	Constitution of India/ Essence of Indian Knowledge Tradition	-	-	-	1
				Total credits			26

Semester VI (Third year)

Sl. No.	Type of course	Code	Course Title	Hours per week	Credits

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				Lecture	Tutorial	Practical	
1	Professional Core Courses	PCC-IT601	Software Engineering	3	0	4	5
2	Professional Core Courses	PCC-IT602	Computer Networks	3	0	4	5
3	Professional Elective courses	PEC-IT601	(Elective-II) Compiler Design /Distributed Systems/ Image Processing	3	0	4	5
4	Professional Elective courses	PEC-IT602	(Elective-III) Artificial Intelligence /Internet of Things /Natural Language Processing/Machine Learning	3	0	0	3
5	Open Elective courses	OEC-IT601	(Open Elective-) Big Data Analytics/Cyber Law & Ethics/Mobile Computing/Bioinformatics/Robotics	3	0	0	3
6	Project	PROJ-IT601	Project-1	0	0	6	3
						Total credits	24

Semester VII (Fourth year)

Sl. No.	Type of course	Code	Course Title	Hours per week			Credits
				Lecture	Tutorial	Practical	
1	Professional Elective courses	PCC-IT701	Internet & web Technology	3	0	0	3
2	Professional Elective courses	PEC-IT702	(Elective-V) Multimedia Technology/Information Theory and Coding/Cyber Security/Cloud	3	0	0	3

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			Computing					
3	Open Elective courses	OEC-IT701	(Open Elective-II) Operations Research/Introduction to Philosophical Thoughts/ Soft Skill & Interpersonal Communication/Numerical Methods	3	0	0	3	
4	Humanities & Social Sciences including Management courses	HSMC-701	Management 1 (Organizational Behaviour)	3	0	0	3	
5	Project	PROJ-IT701	Project-II	0	0	12	6	
							Total credits	18

**Semester VIII (Fourth year)
[Summer Industry Internship]**

Sl. No.	Type of course	Code	Course Title	Hours per week			Credits	
				Lecture	Tutorial	Practical		
1	Professional Elective courses	PCC-IT801	Information Security	3	0	0	3	
2	Open Elective courses	OEC-IT801	Digital Signal Processing/ Natural Language Processing	3	0	0	3	
3	Open Elective courses	OEC-IT802	(Open Elective-IV) E-Commerce and ERP/Economic Policies in India/Remote Sensing & GIS	3	0	0	3	
4	Project	PROJ-IT801	Project-III	0	0	12	6	
							Total credits	15