

# **B.TECH. 4 YEAR PROGRAMME**

## **INFORMATION TECHNOLOGY**

### **SCHEME 2020-21**

**(1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup> & 8<sup>th</sup> Semester)**

## Detailed Scheme for B.Tech. IT

### B.Tech. – IT (First Semester)

CourseNo.	Subject	Scheme of Studies Periods per Week			Credits
		L	T	P	
MTH 101	Engineering Mathematics I	3	1	-	4
PHY 101	Engineering Physics I	3	1		4
CS 101	Fundamentals of Computer Programming	2	1	2	4
EE 101	Fundamentals of Electrical & Electronics	2	1	2	4
HUM 101	Effective Communication and soft skills	2	1	2*	4
IT 101	Engineering Workshop	-		4	2
*Language Lab Total L=12, T=5, P =10		Total Credit			<b>22</b>

### B.Tech. – IT (Second Semester)

CourseNo.	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
MTH 102	Engineering Mathematics-II	3	1	-	4
PHY 102	Engineering Physics-II	2	1	2	4
EG 101	Engineering Graphics	2	1	2	4
CS 102	Data Structures and Algorithms	2	1	2	4
HUM 102	Culture & Human Values	2	1	2	4
IT 102	Programming Lab	-	-	4	2
Total L=11, T=5, P =12		Total Credit			<b>22</b>

### B.Tech. - IT (Third Semester)

CourseNo.	Subject	Scheme of Studies Periods per Week			Credits
		L	T	P	
MTH 211	Mathematics III	3	1	-	4
IT-212	Discrete Structure	3	1	-	4
IT-213	Digital Logic and Design	2	1	2	4
IT-214	Object Oriented Programming	2	1	2	4
IT-215	Design and Analysis of Algorithms	2	1	2	4
IT-216	Information Technology Workshop		1	2	2
Total L=12, T=6, P =8		Total Credit			<b>22</b>

### B.Tech. - IT (Fourth Semester)

Course No.	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
IT-221	Analog and Digital Communication	3	1	-	4
IT-222	Computer organization and Architecture	2	1	2	4
IT-223	Software Engineering	2	1	2	4
IT-224	Database Management Systems	2	1	2	4
IT-225	Information Theory and Coding	3	1	-	4
IT-226	Entrepreneurship Development			4	2
IT 227	Community Services	-	-	-	S/NS
Total L=12, T=5, P =10		Total Credit			<b>22</b>

Community Services\*: 15 days (100 Hrs) community services such as Swach bharat Abhiyan etc. to get Satisfactory (S) or Not Satisfactory (NS) Grade.

### B.Tech. – IT (Fifth Semester)

Course No.	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
IT -311	Data Communication and Networks	2	1	2	4
IT -312	Digital Image Processing	2	1	2	4
IT -313	Micro-Processors and Micro-Controllers	2	1	2	4
IT -314	Object Oriented Design & Modeling	2	1	2	4
IT -315	Operating System	3	1	-	4
Total L=11, T=5, P=8		Total Credit			<b>20</b>

### B.Tech. IT (Sixth Semester)

Course No.	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
IT -321	Cryptography and Information Security	3	1	-	4
IT -322	Internet of Things	2	1	2	4
IT -323	TCP/IP and Web Technologies	3	-	-	3
IT -324	Artificial Intelligence	2	1	2	4
L-1	IT Elective -1	3	-	-	3
IT 325	Minor Project	-	-	4	2
Total L=13, T=3, P=8		Total Credit			<b>20</b>

### List of Electives Level -1 (Any One Subject for VI Semester)

Data Engineering & Computing Stream		Computer Vision & Information Processing Stream		Robotics & Artificial Intelligence Stream		Computer System Architecture Stream	
IT 501	Advances in Database Management Systems	IT 502	Computer Graphics & Multimedia	IT 503	Soft Computing & Intelligent Systems	IT 504	Embedded Systems

### B.Tech. IT(Seventh Semester)

Course No.	Subject	Scheme of Studies Periods per week			Credits
		L	T	P	
IT-411	Data Science and Analytics	2	1	2	4
OT-1	Open Theory from Science/Math/Humanities/ Management	3	-	-	3
L-2	IT Elective 2	3	-	-	3
L-2	IT Elective 3	3	-	-	3
L-2	IT Elective 4	3	-	-	3
IT 412	Industrial Training	-	-	-	2
IT 413	Major Project ( Phase-1)	-	-	4	2
Total L=14, T=1, P =6		Total Credit			<b>20</b>

#### List of Electives Level -2 (Any Three Subject for VII Semester)

Data Engineering & Computing Stream		Computer Vision & Information Processing Stream		Robotics & Artificial Intelligence Stream		Computer System & Architecture Stream	
IT-601	Information Retrieval & Extraction	IT-602	Digital Forensic and cyber law	IT-603	Natural Language Processing	IT-604	Computational Complexity
IT-605	Mobile Computing	IT-606	Ethical Hacking	IT-607	Introduction to Robotics	IT-608	Real Time Systems
IT-609	Quantum Computing	IT-610	Human Computer Interface	IT-611	Web Search & Mining	IT-612	High Performance Computing
IT-613	Machine Learning						

#### List of Electives OT-1 (Any One Subject for VII Semester)

Open Theory from Science/Math/Humanities/Management							
IT 701	Environmental Science	IT 702	Technical Communication	IT 703	System Biology	IT 704	Intellectual Property Right

### B.Tech. IT(Eighth Semester)

Course No.	Subject	Scheme of Studies Periods per week			Credits
		L	L	L	
OT-2	Open Theory from Science/Math/Humanities/Management	3	-	-	3
L-2	IT Elective 5	3	-	-	3
L-2	IT Elective 6	3	-	-	3
IT 421	Major Project ( Phase-2) /Internship*	-	-	4	11
Total L=9, T=0, P =8		Total Credit			<b>20</b>

#### List of Electives Level -2 (Any two Subject for VIII Semester)

Data Engineering & Computing Stream		Computer Vision & Information Processing Stream		Robotics & Artificial Intelligence Stream		Computer System & Architecture Stream	
IT-614	Pattern Recognition	IT-617	Randomized Algorithm	IT-620	Computer Vision	IT-623	Software Testing And Quality
IT-615	Sensor Network	IT-618	Cyber Crime & Information Warfare	IT-621	Cloud Computing	IT-624	Biometrics
IT-616	Big Data Analytics	IT-619	Parallel Algorithms	IT-622	Neural Networks	IT-625	Optimization Method

#### List of Electives OT-2 (Any One Subject for VIII Semester)

Open Theory from Science/Math/Humanities/Management							
IT 705	Principle of Management	IT 706	Engineering Economics	IT 707	Organizational Behavior	IT 708	Project Management