VISHNU INSTITUTE OF TECHNOLOGY (AUTONOMOUS) :: BHIMAVARAM

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

Course Structure for B. Tech. (With effect from 2019-2020)

I YEAR I SEMESTER							
S.No	**Subjects**	**L**	**T**	**P**	**C**	**I**	**E**
1	Mathematics-I (Linear Algebra and Calculus)	2	1	-	3	40	60
2	Applied Chemistry	3	-	-	3	40	60
3	Problem Solving and Programming Using Python	3	-	-	3	40	60
4	Elements of Electrical and Electronic Engineering	3	-	-	3	40	60
5	Engineering Graphics and Design	1	-	3	2.5	40	60
6	Applied Chemistry Lab	-	-	3	1.5	40	60
7	Problem Solving and Programming Lab	-	-	3	1.5	40	60
8	Electrical and Electronic Engineering Lab	-	-	3	1.5	40	60
9	Environmental Science	3	-	-	-	0	0
	Total	**15**	**1**	**12**	**19**	**320**	**480**
						800	

I YEAR II SEMESTER							
S.No	**Subjects**	**L**	**T**	**P**	**C**	**I**	**E**
1	Communicative English	2	-	-	2	40	60
2	Mathematics –II (Probability and Statistics)	3	1	-	4	40	60
3	Applied Physics	3	-	-	3	40	60
4	AI Tools, Techniques and Applications	2	1	-	3	40	60
5	English Communication Skills Lab	-	-	3	1.5	40	60
6	Applied Physics Lab	-	-	3	1.5	40	60
7	AI Tools, Techniques and Applications Lab	-	-	3	1.5	40	60
8	Computer Programming Lab	-	-	3	1.5	40	60
9	Engineering Workshop and IT Workshop	-	-	3	1.5	40	60
10	Constitution of India / Essence of Indian Traditional Knowledge	3	-	-	-	0	0
	Total	**13**	**2**	**15**	**19.5**	**360**	**540**
						900	

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II YEAR I SEMESTER							
S.No	**Subjects**	**L**	**T**	**P**	**C**	**I**	**E**
1	Discrete Mathematical Structures	2	1	-	3	40	60
2	Internet of Things (IoT)	3	-	-	3	40	60
3	Data Structures and Algorithms	3	-	-	3	40	60
4	Computer Organization & Architecture	3	-	-	3	40	60
5	Object Oriented Programming through Java	3	-	-	3	40	60
6	Quantitative Aptitude - I	3	-	-	0	0	0
7	Internet of Things Lab	-	-	3	1.5	40	60
8	Data Structures and Algorithms Lab	-	-	3	1.5	40	60
9	Object Oriented Programming through Java Lab	-	-	3	1.5	40	60
	Total	**17**	**1**	**9**	**19.5**	**320**	**480**
						800	

II YEAR II SEMESTER							
S.No	**Subjects**	**L**	**T**	**P**	**C**	**I**	**E**
1	Software Engineering	3	-	-	3	40	60
2	E-Commerce	3	-	-	3	40	60
3	Database Management Systems	3	-	-	3	40	60
4	Web Technologies	3	-	-	3	40	60
5	Digital Logic Design	3	-	-	3	40	60
6	Logical Reasoning	3	-	-	0	0	0
7	Socially Relevant Project (15 Hrs/Sem)	-	-	1	0.5	20	30
8	Business English Communication Lab	-	-	3	1.5	40	60
9	Design Thinking & Product Innovation Lab	-	-	3	1.5	40	60
10	DBMS Lab	-	-	3	1.5	40	60
11	Web Technologies Lab	-	-	3	1.5	40	60
	Total	**18**	**0**	**13**	**21.5**	**380**	**570**
						950	

Course Structure for B. Tech. (With effect from 2019-2020)

III YEAR I SEMESTER							
S.No	**Subjects**	**L**	**T**	**P**	**C**	**I**	**E**
1	Formal Languages & Automata Theory (FLAT)	3	-	-	3	40	60
2	Design and Analysis of Algorithms	3	-	-	3	40	60
3	Operating Systems	3	-	-	3	40	60
4	**Professional Elective I**						
	1. Software Testing Methodologies	3	-	-	3	40	60
	2. Natural Language Processing						
	3. Full Stack Web Development						
	4. Human Computer Interaction						
5	**Open Elective I (Inter Disciplinary Elective I)**						
	1. Electronic Devices and Circuits(EDC)	3	-	-	3	40	60
	2. Robotics						
	3. Embedded Systems						
	4. Integrated Circuits and Applications						
	5. Statistics with R Programming						
6	Mathematics-III (Differential Calculus and Number Theory & Applications)	2	1	-	3	40	60
7	Socially Relevant Projects (15 Hrs /Sem)	-	-	1	0.5	20	30
8	Quantitative Aptitude II	2	-	-	1	20	30
9	PE-I Lab	-	-	3	1.5	40	60
10	Operating System & Language Processor Lab	-	-	3	1.5	40	60
	Total	**19**	**1**	**7**	**22.5**	**360**	**540**
						900	

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III YEAR II SEMESTER							
S.No	**Subjects**	**L**	**T**	**P**	**C**	**I**	**E**
1	Computer Networks	3	-	-	3	40	60
2	Data Science & Visualization	3	1	-	4	40	60
3	Compiler Design	3	-	-	3	40	60
4	**Professional Elective II**						
	1. Software Project Management	3	-	-	3	40	60
	2. Big Data Analytics						
	3. NoSql Databases						
	4. Multimedia and Animation						
5	**Open Elective II (Inter Disciplinary Elective II)**						
	1. Digital Image Processing	3	-	-	3	40	60
	2. Green Building Technologies						
	3. Information Theory and Coding						
	4. Principles of Signal Processing						
	5. MAT LAB Programming and ML Tool Box						
6	CN Lab	-	-	3	1.5	40	60
7	Data Science Lab	-	-	3	1.5	40	60
8	Advanced English Communication Skills Lab	-	-	3	1.5	40	60
9	Socially Relevant Projects (15 hrs / semester)	-	-	1	0.5	20	30
10	Industrial Training/ Internship/ Research Projects in National Laboratories/Academic Institutions *	-	-	-	-	-	-
	Total	**15**	**1**	**10**	**21**	**340**	**510**
						850	

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IV YEAR I SEMESTER							
S.No	**Subjects**	**L**	**T**	**P**	**C**	**I**	**E**
1	Network Security and Cryptography	3	-	-	3	40	60
2	**Professional Elective III / MOOC***						
	1. Software Architectures 2. Deep Learning 3. Dev Ops 4. Augmented Reality and Virtual Reality	3	-	-	3	40	60
3	**Professional Elective IV / MOOC***						
	1. UML & DP 2. Data Mining 3. Micro Services 4. Game Development	3	-	-	3	40	60
4	**Open Elective III / MOOC***						
	1. Rapid Manufacturing Processes 2. Bio-Medical Engineering 3. Remote Sensing and GIS 4. TV Engineering 5. Control Systems	3	-	-	3	40	60
5	**Humanities Elective I / MOOC***						
	1. Management Science 2. Life Sciences for Engineering 3. Foreign Language	3	-	-	3	40	60
6	Network Security Lab	-	-	3	1.5	40	60
7	PE Lab	-	-	3	1.5	40	60
8	Project I (Mini Project)	-	-	2	1	20	30
9	Industrial Training/Internship/Research Projects in National Laboratories/Academic Institutions	-	-	-	2	20	30
	Total	**15**	**0**	**8**	**21**	**320**	**480**
						800	

IV YEAR II SEMESTER

Course Structure for B. Tech. (With effect from 2019-2020)

S.No	Subjects	L	T	P	C	I	E
1	**Professional Elective V**						
	1. Real-Time Systems 2. Smart Agents and Applications 3. Mobile Application Development 4. Block Chain Technologies	3	-	-	3	40	60
2	**Open Elective IV**						
	1. Entrepreneurship 2. Nano Technology 3. Electronic Measurements and Instrumentation 4. Principles of Communication Systems 5. Digital Control Systems	3	-	-	3	40	60
3	**Humanities Elective II**						
	1. Managerial Economics and Financial Analysis 2. IPR & PE 3. Education, Technology and Society	3	-	-	3	40	60
4	Project II	-	-	14	7	80	120
	Total	**9**	**0**	**14**	**16**	**200**	**300**
						500	

* Note: The MOOC Subjects are to be selected from the state-of-the-art technical subjects, identified by BOS, by the time the student reaches IV B.Tech.

Total Course Credits = 38.5 + 41 + 43.5 + 37=160 Credits