



GUJARAT TECHNOLOGICAL UNIVERSITY

Syllabus for Bachelor of Vocation (B.Voc), 5th Semester

Branch: Software Development

Subject Name: Technology Trends in IT

Subject Code: 21150201

Type of course: Core

Prerequisite: Data Mining, IT Fundamentals

Rationale: The course aims to provide an understanding IT technology trends in today’s world. This course provides the basic understanding of IoT, Big Data, Cyber Security, Cloud Computing and Wearable Technology.

Teaching and Examination Scheme:

Teaching Scheme			Credit	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE (E)	PA (M)	ESE (V)	PA (I)		
3	0	0	3	50	0	0	0	50

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment

Contents:

Sr. No.	Practical / Hands on Exercise	Teaching Hrs.	% Module Weightage
1	Internet of Things (IoT) – Definition of IoT, History of IoT, IoT vs.similar concepts, Application/Segment overview, Technology overview	7	20
2	Big Data Analytics: Concepts, examples of big data analytics, benefits of big data analytics, Technologies, and Applications, requirements for being successful with big data analytics	7	20
3	Cloud Computing – Introduction, Why cloud services are popular, advantages, Characteristics, Service models, Deployment of cloud services, Potential privacy risks	8	20
4	Cyber Security – Introduction, risks, Malicious code, Hacker, attacker or intruder, Cyber security Principles, Information Security (IS) within Lifecycle Management, Risks & Vulnerabilities, Incident Response, Future Implications & Evolving Technologies.	10	20
5	Wearable Technologies – Introduction, Applications of Wearable Technology, Challenges to Wearable Technology, various Wearable devices. Blockchain - Introduction to Blockchain, Types of Blockchain, Blockchain Technology, Legal and Governance Use Cases, Recent trends in the field of Blockchain for real world applications	10	20
Total		42	100



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Reference Books:

1. Computer Today, A. Ravichandran, Khanna Publishing House
2. Internet of Things, Jeeva Jose, Khanna Publishing House
3. Big Data and Hadoop, V.K. Jain, Khanna Publishing House
4. Data Sciences and Analytics, V.K. Jain, Khanna Publishing House
5. Cyber Security, Nina Godbole, Sunit Belapure, WILEY
6. Blockchain: A Practical Guide to Developing Business, Law, and Technology Solutions by Joseph J. Bambara and Paul R. Allen, McGraw-Hill Education.

Suggested Specification table with Marks (Theory): (For BVOC only)

Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
10	20	20	0	0	0

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's Taxonomy)

Course Outcomes:

Sr. No.	CO Statement	Marks % Weightage
CO-1	Understand concepts of IoT	20
CO-2	Understand concepts of Big Data	20
CO-3	Understand concepts of Cloud Computing	20
CO-4	Understand concepts of Cyber Security	20
CO-5	Understand concepts of Wearable Technology and Blockchain Technology	20

Laboratory work: NA

List of Open Source Software/learning website:

Students must refer to following sites to enhance their learning ability.

- Vlabs.iitb.ac.in
- NPTEL tutorials
- <http://www.opensourcetesting.org/>