

**GOVERNMENT GIRLS POLYTECHNIC BILASPUR**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**LESSON PLAN**

Session : July-Dec 2024

Course Name : IT Trends and Cyber Security  
 Subject Code : 2022575(022)  
 Name of Subject teacher : SUMEET KUMAR DEWANGAN  
 Lecture plus Tutorial/Week : 3

Course Outcomes	Topics / Subtopics to be Covered	No. of Periods Planned
<b>CO1: Explain the fundamentals and applications of Internet of Things (IoT) and Embedded Systems.</b>	<b>Unit 1.0 Internet of Things and Embedded Systems</b>	
	• Fundamentals of IoT	2
	• Design of IoT, Characteristics and Functional Blocks of IoT	3
	• Comparison between IoT and M2M	1
	• Domain Specific Applications of IoT	2
	• Fundamentals of Embedded System	2
	• Functioning of Embedded Operating System	2
	• Real Time Operating System (RTOS)	2
	• Applications of Embedded Systems	1
	<b>CO2: Explain the concepts and applications of E-Commerce and E-Governance.</b>	<b>Unit 2.0 Introduction to E-Commerce and E-Governance</b>
• Definition and Emergence of E-Commerce		2
• Marketing in E-Commerce		2
• Security Issues in E-Commerce		1
• Legal Considerations in E-Commerce		1
• Comparison of Conventional Governance and E-Governance		2
• E-Governance Initiatives by Government		2
• Challenges in E-Governance		1
• Privacy and Security Issues in E-Commerce		2
<b>CO3: Understand the basic concepts of Machine Learning and Artificial Intelligence.</b>		<b>Unit 3.0 Fundamentals of Machine Learning and Artificial Intelligence</b>
	• 3.1 Machine Learning Introduction	2
	• 3.2.1 Supervised and Unsupervised Learning	2



**Course Outcomes**

**CO4: Explain cyber crimes and cyber laws related to digital systems.**

**CO5: Understand cyber security threats and cryptography techniques.**

Subject Teacher : Sumeet Kumar Dewangan  
Signature:



**Topics / Subtopics to be Covered**

**No. of  
Periods  
Planned**

- Applications of Machine Learning 1
- Artificial Intelligence Introduction 2
- Propositional Logic, Fuzzy Logic, Decision Trees 2
- Applications of Artificial Intelligence 1

**Unit 4.0 Introduction to Cyber Crime and Cyber Laws**

- Cyber Crime Introduction 1
- Types of Cyber Crime 2
- Hacking, Cyberspace and Criminal Behavior 1
- Digital Forensics 2
- Indian IT Act 2000 and its Amendments 2

**Unit 5.0 Cyber Security and Cryptography**

- Firewalls and Packet Filters 2
- Password Cracking, Spyware 1
- Virus, Worms, Trojan 2
- Types of Cyber Attacks and Recovery Techniques 2
- Types of Cryptography (Symmetric and Asymmetric) 2
- Classical Cryptography Techniques 1
- Digital Signature 1

