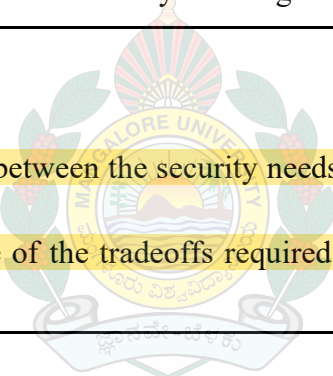


Building Cloud Networks, Federation, Presence, Identity, and Privacy in the Cloud, Security in the Cloud.
(12 Hours)
Textbooks : 1. “Cloud Computing for Dummies”, Judith Hurwitz, Robin Bloor, Marcia Kaufman and Dr. Fern Halper, Wiley Publishing, Inc., 2010. 2. “Cloud Computing: A Practical Approach”, Anthony T. Velte, Toby J. Velte, Robert Elsenpeter, McGraw-Hill, 2010. 3. “Cloud Computing - Implementation, Management, and Security”, John Rittinghouse, James Ransome, CRC Press, 2009.
CSCS 458 : INTERNET OF THINGS
Course Objectives : 1. To make the student aware of the new wave of connectivity, of the every “thing” using internet technologies 2. To make the student aware of the security challenges of the new technological trend
Course Outcomes : 1. Student gets the difference between the security needs of an ordinary node and an IoT node 2. Student gets the knowledge of the tradeoffs required in implementing security on an IoT device
 UNIT I Defining the IoT, Cybersecurity versus IoT security and cyber-physical systems, IoT uses today, The IoT in the enterprise, The IoT of the future and the need to secure. Vulnerabilities, Attacks, and Countermeasures: Primer on threats, vulnerability, and risks (TVR), Primer on attacks and countermeasures, Today's IoT attacks, Lessons learned and systematic approaches. Security Engineering for IoT Development: Building security into design and development, Safety and security design, Processes and agreements, Technology selection – security products and services.
(12 Hours)
UNIT II The IoT Security Lifecycle: The secure IoT system implementation lifecycle, Operations and maintenance, Dispose. Cryptographic Fundamentals for IoT Security Engineering: Cryptography and its role in securing the IoT, Cryptographic module principles, Cryptographic key management fundamentals, Examining cryptographic controls for IoT protocols, Future directions of the IoT and cryptography. Identity and Access Management Solutions for the IoT: An introduction to identity and access management for the IoT, Authentication credentials, IoT IAM infrastructure, Authorization and access control.

(12 Hours)
UNIT III
Mitigating IoT Privacy Concerns: Privacy challenges introduced by the IoT, Guide to performing an IoT PIA, PbD principles, Privacy engineering recommendations. Setting Up a Compliance Monitoring Program for the IoT: IoT compliance, A complex compliance environment. Cloud Security for the IoT: Cloud services and the IoT, Exploring cloud service provider IoT offerings, Cloud IoT security controls, Tailoring an enterprise IoT cloud security architecture, New directions in cloud-enabled IOT computing. IoT Incident Response: Threats both to safety and security, Planning and executing an IoT incident response
(12 Hours)
Textbooks : 1. Brian Russell and Drew Duren, “Practical Internet of Things Security”, Packt Publishing, 2016 2. Giancarlo Fortino and Carlos E. Palau “Interoperability, Safety and Security in IoT” Springer Publications 2017. 3. Zaigham Mahmood, Shijiazhuang, “Security, Privacy and Trust in the IoT Environment” Springer Publications, 2019.
CSCO 462 : INTRODUCTION TO CYBER SECURITY
Course Objectives : 1. To provide an introduction to the cybercrimes and cyber assets 2. To enlighten about the need for comprehensive treatment to the cybersecurity risks and controls
Course Outcomes : 1. Student gets the ability to decipher the complex field of cybersecurity 2. Student realises that the cybersecurity challenge is not merely a technology one, but more of a managerial one in nature.
UNIT I
INTRODUCTION TO CYBERCRIME : Cybercrime - Definition and Origins of the Word, Cybercrime and Information Security, Who are Cybercriminals? Classifications of Cyber Crimes, A Global Perspective on Cybercrimes, Cybercrime Era: Survival Mantra for the Netizens, Cyber Offences: How Criminals Plan Them, How Criminals Plan the Attacks, Social Engineering, Cyberstalking, Cybercafe and Cybercrimes, Botnets: The Fuel for Cybercrime, Attack Vector, Cloud Computing. Mobile and Wireless Devices: Introduction, Proliferation of Mobile and Wireless Devices
(12 Hours)