

UNIT III

Analyzing Deviant Socio-Technical Behaviors Using Social Network Analysis and Cyber Forensics-Based Methodologies, **Tools and Datasets for Cybersecurity** : Security Tools, Data and Research Initiatives for Cybersecurity Analysis. **(12 hours)**

TextBooks:

- (1). “Big Data Analytics in Cybersecurity”, Onur Savas, Julia Deng, CRC Press, 2017
- (2). “Data Analytics and Decision Support for Cybersecurity”, Iván Palomares Carrascosa, Harsha Kumara Kalutarage, Yan Huang, Springer, 2017
- (3). “Darkweb Cyber Threat Intelligence Mining”, John Robertson, Ahmad Diab, Ericsson Marin, Eric Nunes, Vivin Paliath, Jana Shakarian, Paulo Shakarian, Cambridge University Press, 2017
- (4). “Data Analysis for Network Cyber-Security”, Niall Adams, Nicholas Heard, Imperial College Press, 2014

CSCO 512 : Strategic Governance of Cybersecurity Risks and Control Mechanisms II

CO1 : To make students aware of the strategic governance of the ICT resources in a business entity or corporate house or government establishment, to thwart the cyberattack and data leakage.

CO2: To make competent in risk assessment and analysis in case of a cyberattack

CO3: To make students aware of the frameworks and policies governing the data privacy in different domains and the need to be compliant with them.

CO4: To make the students aware of the different security control mechanisms available and how they can be implemented and assessed.

UNIT I

Risk Management and Prioritization Using a Control Perspective : Ensuring that Risk Management Process Supports the Organization, Five Elements of the Risk Management Process, **Control Formulation and Implementation Process** : The Control Formulation Process, Creating and Documenting Control Objectives

(12 hours)

UNIT II

Creating a Management-Level Control Process, Assessing Control Performance, Developing a Comprehensive ICT Security Control Program **Security Control Validation and Verification:** Security Control Assessment Fundamentals, NIST Security Control Assessment Process, Control Testing and Examination Application.

(12 hours)

UNIT III

Control Framework Sustainment and Security of Operations : Operational Control Assurance: Aligning Purpose with Practice, Operational Assurance (Sensing), Analysis, Response Management (Responding), Operational Oversight and Infrastructure Assurance of Control Set Integrity.

(12 hours)

TextBooks

- (1). “The Complete Guide to Cybersecurity Risks and Controls”, Anne Kohnke, Dan Shoemaker, Ken Sigleer, Internal Audit and IT Audit Series, CRC Press Taylor & Francis Group, 2016
- (2).”Securing an IT Organization through Governance, Risk Management, and Audit”, Ken Sigler , Dr. James L. Rainey, Internal Audit and IT Audit Series, CRC Press Taylor & Francis Group, 2016
- (3). “A Guide to the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework (2.0)”, Anne Kohnke, Dan Shoemaker, Ken Sigleer, Internal Audit and IT Audit Series, CRC Press Taylor & Francis Group, 2016
- (4). “Cybercrimes: A Multidisciplinary Analysis”, Sumit Ghosh, Elliot Turrini, Springer, 2010