(B2C), Electronic Health Market (B2B), Electronic Voting and Elections (A2C), Knowledge Exchange via Electronic Books (C2C), **eProducts and eServices:** Components of a Business Model, Anatomy of an Electronic Marketplace, Classification of Business Webs According to Tapscott, Comparison and Valuation of Networks, The Price Formation Process, **eProcurement:** Strategic and Operational Procurement, Information Support for Procurement, Basic Types of eProcurement Solutions, Catalog Management. **(12 hours)**

UNIT II

eMarketing : The Path to Individual Marketing, Comparison of the Communications Media, The Development Model for Online Customers, Online Promotion**, eContracting:** The Electronic Negotiation Process, Generic Services for the Negotiation Process, The Digital Signature, XML and Electronic Contracts, Legal Rights of the Information Society, **eDistribution:** Components of a Distribution System, Types of Distribution Logistics, Supply Chain Management, Electronic Software Distribution (ESD), Protection Through Digital Watermarks, **ePayment :** Credit Card-Based Procedures, Asset-Based Procedures, Innovative ePayment Solutions, Comparison of ePayment Solutions**. (12 hours)**

UNIT III

eCustomer Relationship Management: The Customer Equity Model by Blattberg et al, Analytical Customer Relationship Management, Operational Customer Relationship Management, Use of CRM Systems, **mBusiness :** Mobile Devices, Mobile Communications, Mobile Applications**, eSociety:** Virtual Organizations, Work Organization in eTeams, The Knowledge Worker in a Knowledge Society, Measuring the Success of Intellectual Capital, Ethical Maxims for eTeams**. (12 hours)**

Course Outcome:
At the end of the course student will be able to
   1) Understand the basic concepts and technology used in E-Commerce and E-Governance
   2) Be aware of ethical, social and security issues.

TextBooks :
(1). "eBusiness&eCommerce- Managing the digital Value Chain", Andreas Meier, HenrikStormer, Springer, 2009
(2). "Digital Economy: Impacts, Influences and Challenges", Harbhajan S. Kehal, Varinder P. Singh, IDEA GROUP PUBLISHING, 2005
(3). "The Digital Economy Fact Book", NINTH EDITION, Daniel B. Britton Stephen McGonegal, The Progress & Freedom Foundation, 2007

CSCS 407 – COMPUTER NETWORKS
Course Objective:
The objective of the courses to
   1) Understand basics of computer network and reference models.
   2) To understand types of protocol and its uses.

UNIT 1
Application Layer: Principles of Network Applications: Network Application Architectures, Processes Communicating, Transport Services Available to Applications, Transport Services Provided by the Internet, Application-Layer Protocols. The Web and HTTP: Overview of

HTTP, Non-persistent and Persistent Connections, HTTP Message Format, User-Server Interaction: Cookies, Web Caching, The Conditional GET, File Transfer: FTP Commands & Replies, Electronic Mail in the Internet: SMTP, Comparison with HTTP, Mail Message Format, Mail Access Protocols, DNS; The Internet's Directory Service: Services Provided by DNS, Overview of How DNS Works, DNS Records and Messages, Peer-to-Peer Applications: P2P File Distribution, Distributed Hash Tables, Socket Programming: creating Network Applications: Socket Programming with UDP, Socket Programming with TCP.

12 Hours

UNIT 2

Transport Layer : Introduction and Transport-Layer Services: Relationship Between Transport and Network Layers, Overview of the Transport Layer in the Internet, Multiplexing and Demultiplexing: Connectionless Transport: UDP,UDP Segment Structure, UDP Checksum, Principles of Reliable Data Transfer: Building a Reliable Data Transfer Protocol, Pipelined Reliable Data Transfer Protocols, Go-Back-N, Selective repeat, Connection-Oriented Transport TCP: The TCP Connection, TCP Segment Structure, Round-Trip Time Estimation and Timeout, Reliable Data Transfer, Flow Control, TCP Connection Management, Principles of Congestion Control: The Causes and the Costs of Congestion, Approaches to Congestion Control, Network-assisted congestion-control example, ATM ABR Congestion control, TCP Congestion Control: Fairness. **12 Hours**

UNIT 3

The Network layer: What's Inside a Router?: Input Processing, Switching, Output Processing, Where Does Queuing Occur? Routing control plane, IPv6,A Brief foray into IP Security, Routing Algorithms: The Link-State (LS) Routing Algorithm, The Distance-Vector (DV) Routing Algorithm, Hierarchical Routing, Routing in the Internet, Intra-AS Routing in the Internet: RIP, Intra-AS Routing in the Internet: OSPF, Inter/AS Routing: BGP, Broadcast Routing Algorithms and Multicast. **12 Hours**

Course Outcome:
At the end of the course student will be able to
  1) Learns basic of Computer Networks
  2) Understands reference model (OSI & TCP/IP models)

Textbooks:
  1. James F Kurose and Keith W Ross, Computer Networking, A Top-Down Approach, Sixth edition, Pearson,2017 .
  2. Nader F Mir, Computer and Communication Networks, 2nd Edition, Pearson, 2014.

CSCS 408: FOUNDATIONS OF CRYPTOGRAPHY

Course Objective:
The objective of the courses to
  1) Understanding the fundaments of cryptography and its applications.
  2) Understanding security techniques used in cryptography.

UNIT I

Introduction and Classical Cryptography: Cryptography and Modern Cryptography, The Setting of Private-Key Encryption, Historical Ciphers and Their Cryptanalysis, The Basic Principles of Modern Cryptography, Perfectly-Secret Encryption : Definitions and Basic Properties, The One-Time Pad (Vernam's Cipher), Limitations of Perfect Secrecy Private-Key Cryptography: Private Key Encryption and Pseudo randomness, A Computational Approach to Cryptography, Defining Computationally-Secure Encryption, Pseudo