M.C.A. (Commerce) Sem-IV
CS-408 Advanced Networking.

Objectives :-
- To encourage a performance perspective towards analysis of computer and communications networks.
- To "fill-in" gaps in students' networking knowledge.
- To understand the current directions of computer networks from literature readings.

Chap. No.	Name of the Topic	No. of Lectures	Reference Book
1	**Introduction to Basic Concepts** TCP/IP Protocol Suite Addressing Wired Local Area Network Wireless Lans (802.11) Point-to-point WANS Switched WANS	3	T1
2	**The Internet Layer Protocols** Review of IPv4 Protocol IPv6 Transition from IPv4 to IPv6 ICMPv4 ICMPv6	4	T1
3	**Routing Protocols** Forwarding Structure of a Router Routing Tables Intra – And Inter-Domain Routing Distance Vector Routing RIP OSPF BGP	6	T1
4	**Multimedia** Digitizing Audio and Video Streaming stored Audio / Video Streaming Live Audio / Video Real-Time Interactive Audio / Video RTP RTCP Voice Over IP	3	T1
5	**Introduction To Security** The need for Security Security Approaches Principles of Security	2	T2

	Types of Attacks		

6	**Cryptography: Concepts and Techniques**
	    Introduction
	    Plain Text and Cipher Text
	    Substitution Techniques
	    Transposition Techniques
	    Symmetric and Asymmetric key
	    Cryptography
	(Enough problems should be covered on each topic)
		3	T2

7	**Symmetric Key Algorithms**
	    Algorithms types and modes
	    DES
		3	T2

8	**Asymmetric key Algorithms**
	    RSA Algorithm
	    Symmetric and Asymmetric key
	    Cryptography
	    Digital Signatures
		2	T2

9	**Digital Certificates**
	    Introduction to Digital Certificates
	    Digital Certificates
		2	T2

10	**Internet Security Protocols**
	    Secure Socket Layer
	    TLS
	    SHTTP
	    TSP
	    SET
	    SSL Verses SET
	    3-D Secure Protocol
	    Electronic Money
	    Email Security
	    Firewalls
	    IP Security
	    VPN
		10	T2

11	**User Authentication**
	    Passwords
	    Certificate-based Authentication
	    Kerberos
	    Security Handshake Pitfalls
		4	T2

Reference Books:

T1 : TCP / IP Protocol Suite Fourth Edition – Behrouz A. Forouzan
T2 : Cryptography and Network Security Second Edition – Atul Kahate