

SYLLABUS

Panjab University

M.Sc. (IT), 2nd Semester

Paper Title : E-Commerce and Emerging Trends in Computing

Maximum Marks : 80

Number of Lectures : 90

(45 minutes duration)

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Objectives :

This course enables students to be familiar with Fundamentals of Electronic Commerce and emerging technologies as Parallel Computing, Cloud Computing, Grid Computing, Mobile Computing and Concept of Big Data.

Note :

- (i) *The Question Paper will consist of Four Units.*
- (ii) *Examiner will set total of NINE questions comprising TWO questions from each Unit and ONE compulsory question of short answer type covering whole syllabi.*
- (iii) *The students are required to attempt ONE question from each Unit and the Compulsory question.*
- (iv) *All questions carry equal marks unless specified.*

Unit - I

1. Electronic Commerce: Traditional Commerce vs Electronic Commerce, Types of E-Commerce, E-Commerce infrastructure: Hardware and Software requirements, **Electronic Data Interchange (EDI):** EDI enabled procurement process and its benefits; Components of EDI system: EDI standards, EDI software, communication networks; **Electronic Payment Methods:** Types of Electronic Payment Systems, Digital Token Based Electronic Payment Systems, Smart cards and Electronic payment Systems, Credit Card-Based Electronic Payment Systems, Risk and Electronic payment Systems.

2. Issues in E-commerce: The legal and policy environment of E-Commerce; Intellectual Property, advertising and consumer protection; Copyright Law; Patent Law; Network Security

and Firewalls; Client-Server Network Security Threats; Data and Message Security; Encrypted Documents and E-mail; Digital Signatures.

Unit - II

3. Business Intelligence: Introduction to Business Intelligence, Digital data and its types – structured, semi-structured and unstructured, Introduction to Online Transaction Processing (OLTP), Online Analytical Processing (OLAP), Different OLAP architectures: MOLAP, ROLAP, HOLAP, Comparison of OLTP and OLAP. BI Definitions and needs, BI Component Framework, Business Applications of BI.

4. Case Studies: Supply Chain management, Banking, Online Reservation Systems, Online Publishing

Unit - III

5. Parallel Computing : Introduction and use, Flynn's Classical Taxonomy : SISD, SIMD, MISD, MIMD; Parallel Computer Memory Architectures: Shared Memory, Distributed Memory, Hybrid Distributed –Shared Memory ; Parallel Programming Models : Shared Memory Model, Threads Model, Distributed Memory/Message Passing Model, Data Parallel Model, Hybrid Model, SPMD And MPMP Introduction to Parallel Virtual Machine and Message Passing Interface, Supercomputers

6. Cloud Computing: Introduction and use, Architecture, Service Models: infrastructures as a service, platform as a service, and software as a service;

Unit - IV

7. Grid Computing: Introduction and benefits, virtual organizations, grid Architecture and its relationship to other distributed technologies, grid application areas.

8. Mobile Computing : Definition, Guided Transmission, Unguided Transmission; Mobile computing architecture, Mobile Devices, Mobile System Networks: Cellular, WLAN, Ad hoc networks: Introduction to : GSM, CDMA, GPRS, EDGE; Introduction to Mobile Database; Mobile Applications ; Mobile Application Languages; features of Mobile Operating system: Palm OS, Symbian, Android.