

M-COMMERCE (MC7006)

ANNA UNIVERSITY CHENNAI

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DEPARTMENT OF COMPUTER APPLICATIONS

Third Year CSE (Sem:V)

MC7006 M-COMMERCE L T P C 3 0 0 3

UNIT-1

What is e-commerce?

E-commerce is a modern business methodology that addresses the needs of organization, merchants and consumers to cut costs while improving the quality of goods and services and increasing the speed of service delivery.

What is i-way?

E-commerce is associated with the buying and selling of information, products, and services via computer networks today and in the future via any one of the myriad of networks that make up the information superhighway (i-way).

What is cross-media convergence?

Cross-media convergence refers to the integration of various industries entertainment, publication, and communication media—based on multimedia content.

List some simple technological advances that drive the phenomenon of convergence?

- Convergence of content
- Convergence of transmission
- Convergence of information access

List some components of multimedia?

Some components of multimedia are: text, audio, video, images, animation, graphics, hologram, and numerical data.

What is message passing?

The client -server model allows the client to interact with the server through a request – reply sequence governed by a paradigm known as message passing.

List some challenges that each highway route provider faces?

- Telecom-based
- Cable-based

- Computer Network-based
- Wireless

List the functions of the supply-chain management?

- Supplier Management
- Inventory Management
- Distribution Management
- Channel Management
- Payment Management
- Financial Management
- Sales force productivity

What is terminal equipment?

Customer Premises Equipment (CPE) or terminal equipment is a generic term for privately owned communications equipment that is attached to the network.

List some drawbacks of ADSL?

Asymmetric digital subscriber line has the following drawbacks: It cannot handle live transmissions, and the picture it produces is not as clear as that provided by a well-tuned cable hookup.

What is fast packet switching?

The bundles of data, known as packets move through a network at very high speeds and this routing technique is known as fast packet switching.

List the 4 types of “last mile” connections?

The four types of last mile connections are: plain old telephone system (POTS) wires, cable TV coaxial cable, electricity wires, and wireless.

What is HDT?

The digital video signals from all providers are combined on a video distribution element known as host digital terminal (HDT).

Give two advantages of DBS?

Two advantages of Direct Broadcast satellite are:

- Availability
- Affordability

List the two types of DBS available?

- Prime Star DBS service
- Direct Satellite Service

List some major issues that will play a crucial role in defining the i-way?

The major issues are: cost, subsidies, and allocation of scarce resources, regulation, universal access, privacy, and social issues.

What is a Network Access Point?

A NAP is a high speed network or switch to which a number of routers can be connected for the purpose of traffic exchange and interoperation.

What is a routing arbiter?

A Routing Arbiter (RA) is an element that is introduced into the NAP architecture. RA organization implements the concept of policy-based network routing that enables routing of traffic between different network operators.

List the goals of Gigabit Network Research?

There are two goals:

- To advance the technology and understanding of requirements for high speed networking.
- To explore the potential applications for such a network that is of importance to business and society in general.

List some services of the internet?

Some services of the internet are:

- Individual to group communications
- Information Transfer and delivery services
- Information Databases
- Information Processing services
- Resource-sharing services

(16 marks)


1.Explain E-commerce Framework?

- Information Super-highway
- Information and Multimedia Content
- Technical Standards

2.Explain E-commerce and Media Convergence?

- E-commerce, Convergence
- Cross-Media
- Technological Advances

3.Explain the anatomy of E-commerce applications?

- Multimedia Content for e-commerce applications  Multimedia
Storage servers & e-commerce applications
- Information Delivery/ Transport and e-commerce applications
- Consumer access devices

4.Explain the network infrastructure for e-commerce?

- Market forces influencing the I way
- Network access equipment

- The “Last Mile”
- Global Information Distribution Networks
- Public policy issues shaping the i-way

5.Explain the Internet as a Network Infrastructure?

- Chronological history of the internet
- NSFNET: Architecture and components
- National Research and Education network
- Globalization of the Academic Internet
- Internet Governance and Applications

UNIT – II

What are the 3 types of electronic tokens?

- Cash or real-time
- Debit or prepaid
- Credit or postpaid

What are the properties of *e-cash*?

- E-cash must have a monetary value
- It must be interoperable
- It must be storable and retrievable
- It should not be easy to copy or tamper with while being exchanged

Write notes on electronic checks.

Electronic checks are another form of electronic tokens. They are designed to accommodate the many individuals and entities that might prefer to pay on credit or through some mechanism other than cash.

What are *smart cards*?

Smart cards are credit and debit cards and other card products enhanced with microprocessors capable of holding more information than the traditional magnetic stripe.

Mention the 2 types of smart cards.

- Relationship-based smart credit cards
- Electronic purses

What are the 3 basic categories of credit card payment on on-line networks?

- Payment using plain credit card details
- Payment using encrypted credit card details
- Payments using third-party verification

Mention some factors to be included for designing electronic payment systems.

- Privacy
- Security
- Intuitive interface
- Database integration
- Brokers
- Pricing
- Standards

Define EDI.

Electronic Data Interchange (EDI) is the electronic transfer, from computer to computer, commercial and administrative data using an agreed standard to structure an EDI message.

Specify the 4 layers of EDI architecture.

- EDI semantic layer
- EDI standard layer
- EDI transport layer
- Physical layer

Mention the benefits for international trade.

- Reduced transaction expenditure
- Quicker movement of imported and exported goods
- Improved customer service through “track and trace” programs
- Faster customer clearance and reduced opportunities for corruption, a huge problem in trade.

Give out the basic kit necessary for EDI implementation.

Common EDI standards

Translation software

Trading partners

Banks

EDI value-added networks (VANs)

Proprietary hardware and networking

What are the 2 major ED standards?

- ANSI X.12
- EDIFACT

Give the elements of an EDI message.

- Transaction set
- Data segments
- Data elements

Compare EDIFACT and X.12 Standards.

- Both are comprised of strings of data elements called segments.

- ANSI standards require each element to have a very specific name, such as *order date* or *invoice date*. EDIFACT segments, in contrast, allow for generic or multiuse elements, such as *date*.

Mention the layers of EDI software implementation.

- Business Application Layer
- Internal format conversion
- EDI Translator Layer
- EDI envelope for document messaging

Mention the 3 types of EDI access methods.

- Direct dial or modem to modem connection
- Limited third-party VANs
- Full-service third-party VANs

12. What are the factors involved in EDI implementation cost?

- The expected volume of electronic documents.
- Economics of the EDI translation software
- Implementation time
- Maintenance fees
- VAN charges

13. What are the 2 types of EDI envelopes used?

- X.435
- Internet EDI based on MIME

14. Define VAN.

A *value-added network* (VAN) is a communications network that typically exchanges EDI messages among trading partners.

20. What are the factors that make the internet useful for EDI?

- Flat pricing
- Cheap access
- Common mail standards
- Security

1. Explain EDI Software Implementation.

- Diagram: How EDI works
- EDI Business application layer
- Diagram: The preparation process followed by the application s/w

- EDI Translator layer
- EDI Communications layer

2. Write notes on digital token-based electronic payment systems.

- E-cash & its properties
- E-cash in action
- Business issues
- Operational risk
- Legal issues
- E-checks with diagram

3. Explain the EDI applications in business.

- International trade and EDI
- Financial EDI
- Health care and insurance EDI
- Manufacturing/Retail procurement using EDI
- Business information, product design, and procurement

4. Define VAN. Explain it in detail.

- Definition
- VAN pricing structures
- VAN service providers
- VANs and the internet

5. Write notes on smart cards and electronic payment systems.

- Relationship-based smart cards
- Electronic purses and debit cards
- Smart card readers and smart phones
- Business issues and smart cards

UNIT-III

Part-A

1. What is mean by Marketing?

Marketing is a way of managing a business so that each important business decision is made with full knowledge of the impact it will have on the customer.

2. What are the assumptions of marketing?

The assumptions are (i) all company policies and activities should be aimed at satisfying

customer needs and (ii) profitable sales volume is better company goal than maximum sales volume.

3. What is mean by Advertising?

Advertising is the process of reaching the customer using a broadcast or direct mail campaign orchestrated to influence purchasing behavior.

4. What is mean Bundling?

Bundling is a classic marketing strategy in which two or more complementary products and/or services are offered as a package at a discounted price.

5. List out the bundling strategies.

⌚ Only components. ⌚ Only bundles. ⌚ Mixed strategy.

6. What are the two important information based products?

The two important information based products are: ⌚ Pricing.
⌚ Priority.

7. What are the two main types of micromarketing?

The two main types of micromarketing are: ⌚ Direct-relationship micromarketing. ⌚ Direct-order micromarketing.

8. What are the two different advertising paradigms in the on-line world?

The two different advertising paradigms in the on-line world are: ⌚ Active or Push-Based Advertising.
⌚ Passive or Pull-Based Advertising.

9. What are the two types of Push-based advertising?

The two types of Push-based advertising are:
⌚ Broadcast Model.
⌚ Junk Mail Model.

10. What are the disadvantages of television advertising?

The disadvantages of television advertising are: ⌚ High cost of production. ⌚ Limited exposure time. ⌚ Short air time.
⌚ Clutter of many other ads.

11. What are the types of Pull-based advertising?

The types of Pull-based advertising are:
⌚ Billboards.
⌚ Catalogs or yellow page directories. ⌚ Endorsements.

12. What is Billboard or World Wide Web Model?

Billboard model refers to information placed where it will come to the attention of customers in the course of other activities and does not require active search.

13. What are the advantages of Billboard Model?

The advantages of Billboard Model are:

- ⌚ Ability to completely cover a market.
- ⌚ Maintain high levels of viewing frequency.

14. List the four major classifications of Electronic publishing.

The four major classifications of Electronic publishing are: ⌚ On-line full text publishing.

- ⌚ CD-ROM publishing.
- ⌚ Collaboratories.
- ⌚ Video.

15. What are the two types of software agents function?

The two types of software agents function are: ⌚ Static

- ⌚ Mobile.

16. What are the properties of Mobile Software Agents?

The properties of Mobile Software Agents are:

- ⌚ Programming
- ⌚ Safety.
- ⌚ Resource usage.
- ⌚ Navigation
- ⌚ Privacy.
- ⌚ Communication.

17. What are the challenges for resource discovery of software agents?

The challenges for resource discovery of software agents are: ⌚ The scale of problem.

- ⌚ Need for cooperative brokerages.
- ⌚ Need for resource sharing.

18. What are the three camps of agent requests?

The three camps of agent requests are:

- ⌚ Synchronous communication-oriented remote procedure call (RPC).
- ⌚ Asynchronous message-oriented agents.
- ⌚ Intermediaries or database middleware.

19. What are the 'features of software agent?

The features of software agent are: ⌚ Owner

- ⌚ Author
- ⌚ Lifetime
- ⌚ Account
- ⌚ Goal
- ⌚ Subject description
- ⌚ Background

20. What are the three approaches of Agent Reasoning Capability?

The three approaches of Agent Reasoning Capability are: ⌚ Rule-based approach.

- ⌚ Knowledge-based approach.

- ⌚ Learning approach.

Part-B

1. What are the technological components of Education on-Demand?

- ⌚ On-line full text publishing.
- ⌚ CD-

ROM publishing. ⌚ Collaboratories.

⌚ Video.

2. What are characteristics and properties of user agent?

⌚ Characteristics ⌚ Properties

3. Write notes on On-Line Advertising Paradigms.

⌚ Active or Push-Based Advertising ⌚ Passive or Pull-Based Advertising

4. Write briefly on computer-based education and training.

⌚ On-Line Education and Virtual

Classrooms ⌚ Training On-Demand

⌚ Changing Roles Of Institutions

5. Write notes on digital copyrights and electronic commerce

⌚ Digital Copyright Basics

⌚ Digital Copyright Wording in On-Line Databases ⌚ Enforcing Digital Copyrights
Using Technology

UNIT IV

2 Marks

1. What is operational picture?

Managers and workers need to obtain information regarding their own situation, including the customers, suppliers, and other department in the areas of interest and, of course, the disposition of a competitor through market intelligence. The totality of the information relevant to manager can be referred to as the operational picture.

2. What are the challenges faced by a companies in handling data?

The challenges are:

- i. To pull together the technology for amassing operational information
- ii. To maximize the utility of existing information to managers

3. What were/was expected to help improve a company's competitive position in the 1990s to manage information overload?

- a. Decision Support Systems(DSS)
- b. Management Support Systems(MSS)
- c. Visual Information Access and Analysis(VIAA)
- d. Data/Information Warehouses
- e. Structured Document and Imaging Databases
- f. Executive Information Systems(EIS)
- g. Business Intelligence Systems(BIS)
- h. On-line Analytical Processing(OLAP)
- i. Multidimensional databases(MDD)

4. Write the three key decision support trends

1. Digital information infrastructure consisting of documents and data.
2. Better utilization of information in strategic and operational decision making, which involves effective on-line information search and retrieval in a distributed environment.
3. Architecture for implementing decisions through workflow automation and business process integration.

5. What is an “infosphere”?

Millions of transactions and oceans of multimedia data will flow through the network every day. This creates an “infosphere”.

6. What are the two types of on-line transactions?

Two types of on-line transactions are:

- i. On-line transaction processing(OLTP)
- ii. On-line analytic processing(OLAP)

7. What are the two activities related to navigating the infosphere?

Navigating the infosphere involves two related activities:

- i. Information search, discovery, and retrieval
- ii. Presentation or visualization of the retrieved information

8. List few document management schemes

- i. Ad hoc documents
- ii. Process-specific documents
- iii. Knowledge-oriented documents

9. Give some examples for Ad-hoc documents.

- i. Letters
- ii. Financial reports
- iii. Manuals

10. Write about Process-specific documents

Some of the process specific documents are invoices and purchase orders. They are typically created, constructed, and distributed by support personnel. These are often forms-based: context and appearance undergo virtually no alteration and context varies only slightly according to well-articulated rules.

11. What are Knowledge-oriented documents?

Knowledge-oriented documents encompass documentation, catalogs of product information, and design documents.

12. What are User models?

User models are interposed between the user interface and information sources to filter the available information according to the needs of the task and the user. These

models can be customized.

13. List the types of digital documents

- Document imaging
- Structured documents
- Hypertext documents
- Active documents

14. What are the steps involved in document oriented processes?

- Document creation
- Document media conversion
- Document production and distribution
- Document storage and retrieval

15. Write notes on document imaging.

Document imaging emulates microfiche and microfilm. An imaging system passes a paper document through a scanner that renders it digital and then stores the digital data as a bit-mapped image of the document. Keywords are used for indexing and retrieval of document.

16. Write brief notes on hypertext documents.

Hypertext is a way of making document based information more mobile. Relationships between documents can be represented through hypermedia links.

17. Write notes on active document.

Active documents (or compound documents) represent what is known as document-oriented computing. Active documents provide an interactive interface where all documents, applications, and data related to a particular task are assembled, arranged, and interlinked in such a manner that the user can focus on the task at hand and be shielded from nontask-related issues like access, storage, data formats, location, computing, or delivery mechanisms.

18. Name the activities involved in document-based work flows

- Document modeling
- Transformation
- Synthesizing
- Business modeling

18. List the advantages of structured documents.

- Allows document formatting
- Documents can be edited, linked to graphics, video, photo etc.
- Easy to search and query documents.

19. Name the types of data warehouses.

- Physical data warehouse
- Logical data warehouse
- Data library
- Decision support systems

21. List the elements in building data warehouse

- Back end: Accessing and organizing data easily from disparate sources.
- Preparing data for analysis: Querying, searching, and governing the data.
- Front end: Providing means for effective analysis of the information.

22. What are the advantages of data warehouses?

- Users can manage and access large volumes of information in one cohesive framework.
- Managers can distribute information on a variety of platforms.
- Enables faster access and decision making.
- Increases flexibility.

16.Marks

1. Explain in detail the dimensions of internal electronic commerce systems.

Infosphere- complexity of data-technological architecture for internal commerce(figure)-key areas-user modeling interaction-Effective utilization of information-Types of On-line transactions-Navigating the infosphere-Electronic Brokerages and Work Flow Automation

2. What is a document library? Explain in detail about business can be promoted to meet customer's needs by improving document management support with an example.

Definiions-Challenges in an organization-Corporate digital library as a core of document management (figure)-Digital document management-issues and concerns.

3. Explain the types of digital documents.

- Document imaging
- Structured documents
- Hypertext documents
- Active documents

4. Explain the elements in building data warehouse

- Back end: Accessing and organizing data easily from disparate sources.
- Preparing data for analysis: Querying, searching, and governing the data.
- Front end: Providing means for effective analysis of the information.

5. Explain the issues behind document infrastructure.

- Document constituencies
- Document-oriented processes
- Document-based work flows

UNIT-5

1. What is the compression method used in Multimedia?

- Sector-oriented disk Compression
- Backup or archive-oriented compression
- Graphics and video-oriented Compression
- Compression of data being transmitted over low-speed networks

2.What is the goal of data compression in action?

The goal of data compression is to make the size of the 100 –bit message as close as possible to the 100 bits of underlying information.

3. What is the disadvantage of data compression?

The most obvious problem is the time to transfer that much data from storage to the display. Nearly 30 Mb per second is enough to choke almost any I/O port or data bus. Other problems include both storage and processing.

4. What are the types of Compression Technique? Grief brief notes on them

Compression techniques can be divided into two major categories,

- Lossless Compression
- Lossy Compression

Lossless compression:

It means that a given set of data will undergo a loss of accuracy or resolution after a cycle of compression and decompression.

Lossy Compression:

It produces compressed output that is exactly the same as the input.

5. Define Multiprocessing?

Multiprocessing is defined as the ability to support the concurrent execution of several tasks on multiple processors. This implies that ability to use more than one CPU for executing programs. The processors can be tightly or loosely coupled.

6. Define multitasking?

Multitasking means that the server operating systems can run multiple programs and give the illusion that they are running simultaneously by switching control between them.

Two types of multitasking are used:

- Preemptive
- No preemptive

6. Define Multithreading?

Multithreading is a sophisticated and refers to the ability to support paths of execution within a single address space. Older operating systems

achieve multitasking by creating multiple processes, which creates a great deal of overhead.

8. Give brief notes about the types of storage technology?

Storage technology can be divided into two types:

- Network-based (disk arrays)
- Desktop-based (CD-ROM)

Disk arrays:

Disk arrays store enormous amounts of information and are becoming an important storage technology for firewall servers and other electronic commerce servers.

CD-ROM:

The preemptive desktop storage technology for electronic commerce applications is CD-ROM.

9. What are the types of Desktop video conferencing?

There are three types of desktop video conferencing they are

- Plain Old Telephone lines(POTS)
- ISDN
- Internet

9. What is MBONE?

The MBONE is a virtual network that has been in existence since early 1992. The MBONE shares the same physical media as the internet. It uses a network of routers is not for the faint of heart and is time consuming because a lot of learning and fixing are involved.

11. Define SONET?

SONET, or Synchronous Optical NETwork, is a set of standards that govern synchronous fiber optic data transmission at rates ranging from 51.8Mbps to 2.5Gbps.

12. How fast packet switching differs from the traditional circuit switching?

The fast packet switching differs from the traditional circuit switching in the following three aspects

- Call set-up
- Traffic management
- Switching

12. Describe the benefits of Frame relay?

Frame relay has two benefits:

Speed:

It is no longer necessary to carry out error controls and corrections between each node due to the improvements in transmission media.

Sharing costly bandwidth:

Frame relay allows users to share costly, high throughput channels over a single access line, and it uses a “hubbing” approach to distribute traffic over a wide area.

14. Describe the three functional levels in physical layer?

The physical layer can be divided into three functional levels:

- Transmission path
- Digital section
- Regenerator section

14. What are the four dimensions in mobile computing?

The four dimensions in mobile computing are,

- Wireless delivery technology and switching methods
- Mobile information access devices
- Mobile data internetworking standards and equipment
- Mobile computing based business applications

15. What are the categories of Radio based systems?

Radio based services can be grouped into two main categories:

- Land based
- Satellite based

16. What is palmtop?

Palmtop computers attempt to provide higher functionality and more closely resemble what's available in desktop computers. Palmtops called personal organizers. It offer the combined functionality of a personal organizer and communications terminal to provide access an application-specific personal computer and communications terminal to provide access to e-mail.

18. Specify the advantage of circuit-Switched Cellular transmission?

The advantage of circuit switched cellular transmission is that users should be able to use a cellular modem as they would any modem. Because the charge call is by the minute and also for set-up, cellular modems can be more cost-effective when used to send large messages.

19. What is licensed broadband?

Licensed bandwidth allocation of 120 MHz in the 1850 MHz to 1990 MHz band represents a considerable amount of spectrum-by comparison,

the current cellular phone system, known as advanced mobile phone system occupies only 50 MHz.

20. What is the application of unlicensed broadband?

These applications today are relegated to the industrial/scientific/medical bands should make better use of the radio spectrum and allow for more simultaneous users and better signal quality.

1. Explain about digital video and electronic commerce?

- Characteristics of Digital video
- Digital video compression/Decompression
- Types of Codes
 - ⌚ Hybrid ⌚ Software-based
 - Three Hybrid standards
 - ⌚ JPEG ⌚ MPEG I
 - ⌚ MPEG II

2. Describe Desktop Video Processing?

Video on the desktop is a key element in turning a computer into a true multimedia platform. However digital video isn't what one would call a "natural fit" when it comes to desktop computers due to their inability to process the compression and decompression of video satisfactorily.

- Desktop Video Hardware for playback and capture
- Video playback
- Video capture and Editing
- Desktop Video Application Software
- Apple's Quick Time
- Microsoft's video for Windows

2. Explain Desktop video conferencing? What are the types of Desktop video Conferencing?

Desktop video conferencing is gaining momentum as a communications tool. For many business users, face-to-face videoconferences are already a common practice allowing distant colleagues to communicate without the expense and inconvenience of traveling.

TYPES OF DESKTOP VIDEO CONFRENCING:

- Using POTS for video conferencing
- Using ISDN for video conferencing

- Using the internet for video conferencing ⌚ CU-SeeMe
- ⌚ MBONE

4. Describe the concept of Broadband background?

- Narrowband Versus Broadband Networks • Integrated services Digital Network (ISDN) • SONET and SDH
- BISDN Versus ATM
- Connectionless versus connection oriented networks • Switching techniques
- ⌚ Call set-up ⌚ Traffic management ⌚ Switching

5. Explain about Asynchronous Transfer Mode (ATM)?

ATM is a high-speed, connection-oriented, cell based transmission scheme that offers bandwidth on demand for voice, data and video telephony applications. ATM networks are being created to switching technology voice, data and video signals at multiples of 155 Mbps through multigigabit “hubbing devices”

Types of ATM traffic and switching: • ATM Switching

- ATM cell structure
- ATM system Architecture

6. Give brief description about wireless delivery technology and switching methods?

- Radio-Based Systems
- Cellular Communications
- ⌚ Increasing Capability and widespread coverage for cordless telephones
- ⌚ Decreasing cell size (micro cells) and power levels for hand-held and vehicular cellular radio.
- ⌚ Specialized wireless data systems

Wireless packet data networks

- Satellite networks
- Very small aperture terminals (VSATs)
- Paging and satellite Networks
- Infrared or Light-Based Mobile computing

6. Explain Mobile information access devices?

- Portable computers
- Hybrid pen computers

- Personal Digital Assistants (PDAs)
- Digital Assistants
- Personal communicators
- Palmtops
- Cellular modems and PCMIA adapters