

# NOORUL ISLAM COLLEGE OF ENGINEERING

MSc.SOFTWARE ENGINEERING(5 Yrs)

EIGHTH SEMESTER

WEB TECHNOLOGY – XCS 482

2 – MARK QUESTION AND ANSWERS

## UNIT-I

### 1. What is internetwork or internet?

A network of computer networks is called internetwork or internet.

### 2. What is networking?

More devices have to be connected for sharing data or resources or exchanging messages called networking.

### 3. Define repeater?

It is also known as a regenerator is an electronic device, which simply regenerates a signal.

### 4. Define bridge?

A bridge is a computer that has its own processor, memory and two NIC cards to connect to two portions of a network.

### 5. What is Learning bridge?

A learning bridge is otherwise known as adaptive bridge, does not have to be programmed manually, unlike a simple bridge.

### 6. Define multipart bridge?

It connect more than two network segments is called multipart bridge.

### 7. Define router?

It operates at the physical, data link and network layer of the OSI model. It is termed as an intelligent device.

### 8. Define gateway?

A gateway operates at all the seven layers of the OSI model.

1. A gateway is a very powerful computer as compared to a bridge or a router.
2. It is typically used to connect huge and incompatible networks.

**9. Define TCP?**

TCP->Transmission Control Protocol . It is used to store the information.

**10. Define IP?**

IP->Internet protocol  
It is used to split the information in to packet.

**11. Define TELNET?**

TELNET->Terminal network  
It allows a user to log into a computer from a remote distance.

**12. What is collaborative authoring?**

User to work together a process called collaborative authoring.

**13. Define W3 consortium?**

It coordinates the development of WWW standards and ensures uniformity and minimum duplication of efforts.

**14. What is web page hosting?**

ISP –Internet Service Providers  
ISP might own web pages called web page hosting.

**15. Define RAS?**

RAS-Remote Access Server  
-It is used to check whether the user id and password sent by the subscriber are valid or not.  
-If it is not valid it sends an error message back to the subscribers modem .

**16. Define internet protocol address or IP address?**

Each computer on the internet be assigned a unique 32 bit number called IP address.

**17. What is class?**

The class denotes the bits 0 and 1.

**18. Define prefix?**

The prefix denotes the physical network to which the computer is attached.

**19. Define suffix?**

The suffix identifies an individual computers on that network.

**20. Define multicasting ?**

It is used when a single message is to be sent to a group of computers.

**21. What is multicast address?**

A group of computers must share the common address is called multicast address.

**22. What is meant by direct delivery?**

The flow of packets from the source to the destination ia called direct delivery.

**23. Define IPng?**

A new version of IP address is called IPV6 also known as IP net generation(IPng).  
-Also has support for audio and video.

**24. What is virtual connections?**

The connections provided by TCP are known as virtual connections.

**25. Define ports?**

Different hosts communicate with TCP with the help of a concept called ports.

**26. Define sockets?**

Sockets is used to identify the IP address and the port number concatenated together.

**27. Define segment?**

A TCP packet is known as a segment . It consists of a header of size 20 to 60 bits.

**28. What is meant by SYN flag?**

The SYN flag indicates that the source wants to establish a connection with the destination.

**29. define UDP?**

UDP-User Datagram Protocol  
-is a connection less protocol . It allows computers to send data.

**30. define spooling?**

The e-mail service provided by the internet differs from other communication is called spooling.

It allows a user to compose and send an e-mail message.

**31. Define browser based e-mail?**

Web sites such as hot mail . yahoo among ,users to access e-mails using web browser called browser.

**32. Define FTP?**

FTP-File Transfer Protocols

Transforming files from one computer to another is called FTP.

**33. What is meant by local login?**

All users log in to the control server computer and use its resources is called local login.

**34. Define terminal driver?**

A users terminal sends the commands entered by the user to a program known as terminal driver.

**35. Define Remote login?**

The user logs on to the remote computer in a process known as remote login.

## UNIT-II

### 36. Define commerce?

The term commerce refers to the exchange of goods or services for money.

### 37. Define e-commerce?

The term electronic commerce refers to the exchange of information over computer networks, which results into a real life transaction.

### 38. What is B2B?

B2B->Business to Business

It involves exchange of information and business documents related to goods and services that are used in businesses.

### 39. Define B2C?

B2C-. Business to consumer

It involves online purchase transactions such as books, banking , services or goods and services of lower value but higher volume.

### 40. Define C2C?

C2C-> Consumer to consumer

It an online version of purchase, sale, exchange of house hold goods, books, personal things and so on.

### 41. Define e-procurement?

Electronic procurement helps businesses make their purchasing efficient and cost-effective.

### 42. Define static web page?

Static web page means do not change the text.

It is otherwise known as passive.

eg:

This is similar to a printed page in a book.

### 43. What is aggregated volume buying?

It creates a centralized purchasing process is called aggregated volume buying..

### 44. Define sell-side store fronts?

It is like an ordinary shop that we visit and purchase goods of interest from is called sell-side store fronts.

**45. What is meant by SCM?**

SCM-supply chain management

A supply chain is a process that links manufactures , retailers, customers and suppliers in the form of a chain.

**46. What is meant by CRM?**

CRM-Customer Relationship Management

CRM is a combination of business processes and enabling technology that aims at understanding and serving an organizations.

**47. What are the three important phases of CRM?**

1. Acquire a new customer.
2. Enhancing the old as well as new customers profilability.
3. Retaining them for life.

**48. What is dynamic web pages?**

Dynamic web pages can be used to change the text.

**49. Define DHTML?**

DHTML->Dynamic Hypertext markup language.

Is a scripting language.

**50. Define tier?**

The term tier is used very frequently when referring to any client – server architecture and in particular e-commerce architecture.

**51. Define 1-tier?**

We are only person working there at the moment there is no secretary or office boy in other words, we are doing all the jobs ourselves . this is a 1 tier or single tier.

**52. Define 2-tier?**

It meant that there are two computers involved in executing an application.

**53. Define 3-tier?**

The application logic is takes from both the client and the server and clubbed into a new tier called 3-tier.

## UNIT-III

### 54. Define cookie?

A cookie is just one or more pieces of information stored as text strings in a text file on the disk of the client computer, i.e., the web browser.

### 55. What are hidden variables?

Is used for maintaining the state information by using hidden variables.

Is a special kind of variables in HTML

### 56. Which organization invented CICS?

The IBM mainframe family of computer first created customer information control system (CICS).

### 57. Define CICS?

CICS is a mini operating system. This is a highly efficient and source manner.

### 58. Define RPC?

The application interacted with TP monitors with the help of procedural calls known as remote procedure calls (RPC).

### 59. What are the technologies used in RPC?

DCOM, CORBA, IIOP, and RMI.

### 60. Define CTM?

A combination of distributed transactional objects and ORB is called component transaction monitors (CTM).

### 61. What is the formula used in CTM?

$CTM = TP \text{ monitor} + ORB.$

### 62. Define load balancing?

To handle a large number of clients, a number of server computers are set up with an identical set of data and applications and any one of them can serve the client, depending on how busy the server and other servers are balancing the client load.

**63. Define MSMQ?**

MTS often uses the services of another Microsoft technology known as Microsoft message Queue(MSMQ).

**64. What is meant by EJB?**

EJB is a server side component based architecture that enables the development of web-based transactional application for e-commerce.

**65. What are classification of e-commerce site?**

E-commerce site can be broadly classified into three categories.

1. Shopping and selection using a shopping cart.
2. Billing
3. Order fulfillment

**66. Define container provider?**

Is responsible for providing the low-level run time environment for EJB application to execute.

**67. What is persistence?**

It means storing the state of an object in some form of permanent storage such as a disk.

**68. Define session Beans?**

Used to update the salary of one or alt employess by a certain percentage.

**69. Define plaintext?**

Any communication in the language that you and speak that is the human language is known as plaintext.

**70. Define cryptography?**

Is a technique of encoding and decoding messages.

**71. What is encryption?**

The process of encoding message is known as encryption.

**72. Define ciphertext?**

The original text is encrypted in to another is called ciphertext.

**73. What is symmetric key encryption?**

Only one key is used and the same key is used for encryption and decryption of messages . it is otherwise known as secret key encryption.

**74. What is meant by asymmetric key encryption?**

Two different keys are used one key is used for encryption and other key is used for decryption.  
It is otherwise known as public key encryption.

**75. Define digital certificates?**

Proves the identity of a client or a server beyond doubt , because a reliable authority such as the government, a banks or a financial institution issues it.

**76. Define certification authority(CA)?**

The authority issuing a digital certificate is called certification authority.

**77. What is meant SSL?**

IN 1994, Netscape communications developed and popularized a network authentication protocol known as secure sockets layer(SSL).

**78. What is SSL handshake?**

An SSL session always starts with an exchange of a group of message called the SSL handshake.

**79. Define server authentication?**

The client class some of the information sent by the server to authenticate the server. this process is called server authentication.

**80. Define premaster secret?**

The data generator in the handshake the client creates a secret called the premaster secret.

**81. What is cardholder?**

Is a customer who user a credit card to make payments for purchasing goods or services.

**82. Define clearing?**

Is the process by which the transaction information is passed from the acquirer to the card holder, the issues to effect posting to the cardholder account.

**83. Define 3D secure?**

A new protocol development by visa has emerged known as 3D secure.

## UNIT-IV

### 84. Define EDI?

EDI -. Electronic Data Interchanges  
Is the exchange of business documents such as purchase orders, invoices etc it an electronic format.

### 85. What is VAN?

A VAN is a communication network that provides additional applications/functionality on top of the basic network infrastructure.

### 86. Define automatic clearing House?

The trading partners exchange financial information that is a network called automatic clearing house.

### 87. Define XML?

XML –Extensible markup language.  
It can be used to exchange data across the web.  
It can be used to create data structures that can be shared between incompatible systems.

### 88. What is Extensible style sheet language?

Specifies how to display an XML document , it solves the problem of how to format an XML document at the time of display.

### 89. Define WAP?

WAP-> Wireless Application Protocols  
Is a communication protocol that enables wireless mobile devices to have access to the internet.

### 90. Define WAP devices?

A WAP devices is any mobile device such as a mobile phone or a plan PDA that can be used to access mobile computing services.

### 91. Define WML?

A special program now transforms the HTML output into a language called wireless markup language(WML).

### 92. Define stack?

Allows a mobile device to connect to a WAP gateway with the help of the WAP protocols.

**93. Define WAE?**

WAE -> Wireless Application Environment

It is otherwise known as application layer. This layer provide an environment for wireless application development.

**94. Define deck?**

Every WML document has an extension of .wml and is called a deck.

**95. Define WBMP?**

WBMP-Wireless Bitmap.

WML supports a new image format called WBMP.

Small images that are only in blacks and white.

## UNIT-V

**96. What are the two aspects of online shopping?**

- Presentation of information such as product details.
- Capturing and processing customers orders.

**97. Define default .asp?**

Default .asp is like a main program that calls other sub programs.

**98. Define users table?**

This table is used to store user-related information such as user ids , names, passwords address information credit card details etc.

**99. Define cart table?**

This table is used to store the shopping cart information , when a user decides to add one or more products to the shopping cart.

**100. Define IIS?**

It emerging s internet technologies Microsoft came up with a web browser internet explorer and followed it up with a web server internet information server(IIS)

**101. Define NGWS?**

Microsoft announced that it was working on a group of technologies called next generation window services(NGWS)

**102. What are the layers of .NET framework?**

- Common language runtime
- Basic classes
- User interface.

**103. Define MSIL?**

Every program written with the intention of executing on the NET setup is compiled into an intermediate byte code formed in this case called as Microsoft intermediate language(MSIL).

**104. Define basic classes?**

This layer of the .NET framework provider service such as database interactions, XML support and input/outputs.

**105. What is meant by Microsoft foundation classes(MFC)?**

Visual c++ uses a frameworks called MFC.

## UNIT-I

### 1. Describe internetworking devices ?

**\* Connecting devices:**

- 1) Networking devices
  - \* Repeaters
  - \* Bridges
- 2) Internetworking devices
  - \* Routers
  - \* Gateways

**\* Repeaters:**

- otherwise known as regenerator
- regenerates a single

**\* Bridges:**

- is a computer
- does not run application programs
- functions of a bridge
- communication between smaller segments of a networks

**\* Types of Bridges:**

- a) Simple
- b) Learning
- c) Multiport

**\* Routers:**

Operates at the physical ,data link and network layer.

**\* Gateways:**

Operates seven layers.

**\* Internet topology:**

- Organized to form a hierarchy.
- Two layers used , ie NAP and ISP.
- NAP (Network Access Providers)used to connect one of the network access points.
- ISP(Internet Service Providers)used to twisted pair telephone connection using a modem.

### 2. Describe internal architecture of an ISP and IP address ?

**\* Introduction:**

- \* Web page hosting
- \* E-mail access
- \* ISP portal

**\* High-level architecture of an ISP:**

Used to identify a computer  
Common subscriber ISP connections

**\* IP address:**

1) Introduction:

IP address consists of three parts

- a) a class
- b) a prefix
- c) a suffix

a) a class :

denotes the bits 0 and 1.

b) a prefix:

denote the physical network.

c) a suffix:

identifies an individual computer on that network.

2) Classes of IP address:

Using two possibilities:

- a) direct delivery
- b) indirect delivery

3) Dotted Decimal notation

4) Routers and IP addresses

5) IP version 6(IPV6)

\* IP next generation (IPng)

\* Support for audio and video

### **3. Explain about features of TCP ?**

**\* Reliability:**

- 1) Error control
- 2) Loss control
- 3) Sequence control
- 4) Duplication control

Error control:

The router that connects two networks introduces some errors.

Loss control:

software breaks the original message into three packets.

Sequence control:

The sender host A sends three packets destined for another host B.

Duplication control:

Opposite to loss control.

**\* point-to-point communication:**

- 1) source
- 2) Destination

\* **Connection Oriented:**  
virtual connections.

#### **4. Describe TCP packet format and UDP ?**

-Segment

-Consists of a header of size 20 to 60 bytes.

**Source port number:**

Port number of a source computer

**Destination port number:**

Port number of a destination computer

**Sequence number:**

4 byte field

**Acknowledgement number:**

Destination host receives a packet

**Header length:**

Four byte words in the TCP header

**Reserved :**

6 bit field

**Flag:**

Control flag

**Window size:**

Size of the sliding window

**Checksum:**

Error detection and correction

**Urgent pointer:**

Used in situation

**UDP(User Datagram Protocols):**

Connectionless protocol

**UDP packet:**

User datagrams

**Source port number:**

Running on the source computer

**Destination port number:**

Running on the destination computer

**Total packet length:**

UDP packet length = IP packet length-IP header length.

**Checksum:**

Used for error detection and correction.

#### **5. Explain about domain name system and e-mail ?**

**\* Introduction:**

**\* DNS in the internet:**

- a) Generic domain
- b) Country domain
- c) Inverse domain

**\* Generic domains**

**\* Country domains**

**\* Inverse domains**

**\* The DNS Namespace**

**\* DNS server**

Introduction

How the DNS server works

**\* Electronic mail(e-mail):**

Introduction:

- a) Composition
- b) Transfer
- c) Reporting
- d) Displaying
- e) Disposition

- mailbox
- Sending and Receiving an E-mail
- E-mail client software
- E-mail server software
- Client portion
- Server portion
- E-mail anatomy
- User agent (UA)
- Mail box
- Spool
- Mail Transfer Agent
- The e-mail transfer protocols
- POP
- SMTP
- IMAP protocol
- Browser-Based e-mails
- Multipurpose internet mail extensions(MIME)

**6. Explain about TELNET ?**

**\* Terminal Network(TELNET):**

- a) Client
- b) Server

- \* **Introduction:**
- \* **Local login**
- \* **Remote login and TELNET**
- \* **TELNET**
- \* **TELNET as an alternative to a web browser**
- \* **HTTP-Hyper Text Transfer Protocols**
- \* **HTTP commands**
  - a) GET
  - b) PUT
  - c) DELETE
  - d) LINK
  - e) HEAD
  - f) UNLINK
- \* **Eg of an HTTP interaction**
- \* **Proxy sever.**

## **UNIT-II**

### **7. Describe approaches for developing e-commerce solutions ?**

- \* Three primary approaches are used complete custom development:
  - a) Waiting to develop an e-commerce solution

- b) Using technologies such as ISAPI, NSAPI, CGI, ASP, JSP, Servlets etc.
- \* E-commerce server platform:  
Creating a user interface a shopping cart a product catalog etc
- \* IBM's net-commerce:  
Simple installation process, a reasonable price and plenty of customization options
- \* Microsoft's site server commerce edition:
- \* E-commerce packaged application  
Introduction  
Broad visions one-to-one commerce.
- \* Accessing customer data
- \* Support the concepts of user id/pwd , cookies, and digital certificates for
- \* Identification and validation.
- \* Provides a shopping card
- \* Handling orders
- \* Supports workflow management
- \* Use tax calculation

## **8. Describe E-procurement models and solutions ?**

- \* **Sell-side storefronts:**  
Advantages:
  - a) Free to buyers
  - b) Private network/VAN is required
 Disadvantages:
  - a) Guidelines about finding the sellers
  - b) Interact with different interfaces
- \* **Buy-side E-procurement:**  
Advantages:
  - a) long term relationship
  - b) reduce cycle times
  - c) offers
 Disadvantages:
  - a) Very expensive
  - b) Costly and cumbersome
- \* **B2B marketplaces:**
  - \* Advantages:
    - a) Sourcing solution for buyers
    - b) Opportunities for smaller firms.
  - \* Disadvantages:
    - a) Mostly buyer oriented

- \* E-procurement solutions:
  - a) End-to-end development from scratch
  - b) Pre packaged products
  - c) Ready to assemble components

## 9. Describe the features required for enabling E-commerce ?

- \* **Making web pages interactive:**  
Web pages interact with the users.
- \* **Session management:**  
Client requests a server for any object
- \* **Security:**  
Safe
- \* **Web pages:**
  - a) Static
  - b) Dynamic
  - c) Active
- \* **Static :**  
Do not change
- \* **Dynamic:**  
Change the text
- \* **Advantages of static web pages:**
  - a) Very simple
  - b) Containing graphics
  - c) Simpler to maintain
- \* **Disadvantages of static web pages:**  
Edited manually
- \* **Dynamic web pages:**  
The need for dynamic web pages
- \* **Active web pages:**  
Came into existence as a result of queries.
- \* **Active web pages is a better solution:**  
DHTML  
Style sheets.

## 10. Describe Common Gateway Interface(CGI) ?

- \* Server side programming technique
- \* Active server pages(ASP)
- \* Basics of ASP technology
- \* Tiers

- a) 1-tier
- b) 2-tier
- c) 3-tier

### **UNIT-III**

#### **11. Describe the maintaining state information ?**

- \* Authentication mechanisms
- \* Dynamic URL

\* Cookies:

- a) Introduction
- b) Cookies philosophy
- c) Hidden variables
- d) Session variables

\* Difference between cookies and session variables.

## 12. Explain about ORB and CTM ?

**ORB** –object request brokers

Using technologies such as DCOM, CORBA, IIOP and RMI

**CTM**-component transaction Monitors

CTM=IP monitor +ORB

Load balancing

MSMQ- Microsoft Message Queue.

## 13. Describe EJB ?

Introduction:

- Broadly classified into three
  - a) Shopping and selection using a shopping cart
  - b) Billing
  - c) Order fulfillment
- EJ development personnel
- The Bean provider
- The container provider
- The server provider
- Some of the database consistency as
  - a) Persistence
  - b) Remote awareness
  - c) Multi-user support
  - d) Location transparency
  - e) The application assembler
  - f) The EJB deployer
  - g) A detailed look at EJB
  - h) Session Beans
  - i) State full session beans
  - j) EJB container
  - k) EJB server
- Services provided
- Transaction management
- Stateless session beans

- Entity beans
- Bean managed persistent entity beans
- Container managed persistent entity beans

#### **14. Define cryptography? Explain cryptography and types of cryptography ?**

- \* Encoding and decoding messages
- \* Encryption
- \* Plaintext
- \* Ciphertext
- \* Types of ciphertext:
  - a) Stream cipher
  - b) Block cipher
  - c) Symmetric key encryption
  - d) Asymmetric key encryption
  - e) RSA algorithm

#### **15. Describe SSL ?**

- \* **SSL** - Security Socket Layer  
Private communication technology
- \* **Where does SSL fit in?**
  - a) SSL server authentication
  - b) SSL client authentication
  - c) Encrypted SSL connection
  - d) SSL sub protocols
  - e) SSL handshake protocols
  - f) SSL record protocols
- \* **How does SSL works?**
  - a) Introduction
  - b) The SSL handshake
  - c) Server authentication
  - d) Client authentication
  - e) Pre master secret
  - f) Session key

#### **16. Describe credit card processing models ?**

- \* Brief history of credit cards
- \* Credit card transaction participants
- \* Card holder

- \* Merchant
- \* Bank
- \* Association
- \* Sample credit card payment flow:
  - a) clearing
  - b) settlement
- \* Credit cards and e-commerce
- \* Without involving a payment gateway
- \* Involving a payment gateway
- \* Credit card processing without a payment gateway
- \* Gateway:
  - a) Verification
  - b) Payment
- \* Credit card processing involving a payment gateway
- \* Offsite payment processor
- \* Payment terminals
- \* Component based solution
- \* Opening a merchant account
- \* Registering at cyber cash
- \* Authorizing credit card transaction using cyber cash
- \* Payment authorization
- \* Payment capture
- \* Immediate payment capture

### **17. Describe E-money and types ?**

- \* Security mechanisms in e-money
- \* Types of e-money
- \* Anonymous e-money
- \* Classification based on the involvement of the bank in the transaction
- \* Online e-money
- \* Offline e-money
- \* The double spending problem

## **UNIT-IV**

### **18. Describe understanding EDI ?**

- \* Non-EDI system
- \* Shifting to EDI-based systems

- a) Pre established trading partners
- b) Value added networks
- c) Use of a third party VAN
- d) Developing a VAN solution in house
- e) Possibilities and limitations with VANS
- \* Partially integrated EDI systems
- \* Fully integrated EDI
- \* Advantage of EDI

### **19. Explain about EDI architecture ?**

- \* Business application
- \* Internal format conversion
- \* EDI translator
- \* EDI envelope
- \* Business application layer
- \* Internal format conversion layer
- \* EDI translator layer
- \* EDI envelope layer

### **20. Describe basics of XML and XML phases ?**

- \* The idea of markup
- \* Hierarchy of information
- \* Difference between HTML and XML
- \* Basics of XML document structure
- \* XML parsers:
  - a) Elements and attributes
  - b) Document type definitions
  - c) XML schema
  - d) XML parsers a detailed look
  - e) The sequential approach SAN
  - f) The free approach
  - g) Extensible style sheet language

### **21. Describe WAP architecture ?**

- \* Introduction
- \* WAP gateway
- \* WAE user agent
- \* WTA user agent
- \* WAP stack

- \* Internal architecture of a WAP gateway

## **22.Describe WAP stack ?**

- \* **Introduction:**

- a) Application layer
- b) Session layer
- c) Transaction layer
- d) security layer
- e) Transport layer

- \* **The application layer-WAE:**

- \* **Wireless markup language WML:**

- a) Basics of WML
- b) WML examples
- c) Other important features of WML
- d) Displaying options
- e) Accepting user inputs
- f) WML script
- g) WML script examples

- \* **The session layer WAP:**

- a) Connection oriented session services
- b) Connectionless session services

- \* **The transaction layer-WTP:**

- a) Unreliable request
- b) Reliable request with are response message

- \* **The security layer(WTLS):**

- a) security
- b) Privacy
- c) Server authentication
- d) Client authentication
- e) Data integrity

- \* **The transport layer(WDP):**

## **UNIT-V**

## **23.Describe online shopping with ASP ?**

- \* Using two aspects
- \* Presentation if information
- \* Default .asp
- \* The organization of default .asp
- \* Catlist .asp-Displaying product categories

- Default .asp
- Static HTML.text
- catlist .asp
- product list .asp
- \* Default .asp the overall controller.

## **24.Describe how we can used data base tables ?**

- \* The users table
- \* The cart table
- \* The order table
- \* The ordering process
- \* User registration
- \* The shopping cart creation process
- \* Cart asp control the registration process
- \* Login asp-allows the user to login register
- \* Add cart .asp
- \* Checkout .asp
- \* Enterprise application integration

## **25.Describe an overview of emerging technologies ?**

- \* The need for .net
- \* Internet information server
- \* An overview of the .net framework
- \* Common language runtime
- \* Base classes
- \* User interface
- \* Microsoft intermediate language
- \* Base classes
- \* The common type system.
- \* Common language specification
- \* User interface
- \* .net a case study
- \* Architectural view
- \* Display the initial screen
- \* User submits form
- \* Actual processing
- \* Structure of the accounts table
- \* web services