NOORUL ISLAM COLLEGE OF ENGINEERING
DEPARTMENT OF COMPUTER TECHNOLOGY
III B.Sc Computer Technology
Semester 6
MULTIMEDIA –BCS001

Short Questions

Unit – I

1) What is multimedia?
Simultaneous use of data in different media forms such as voice, video, text and animation

2) What is continuous media?
Any type of media can be link digital video & Audio media are the most demanding media and are called as continuous media(CM).

3) What is meant by multimedia communication?
It denotes the communication system which support the real time transmission of Continuous media.

4) What is movie map?
In late 1970's Andy lippman & Robert Mohl developed Aspen project. Film shot taken from a moving vehicle through the town of Aspen Colorado were stored on video disk .It can be accessed interactively to simulate driving to the town.

5) What is electronic book?
It is a book like user interface literally at the finger tips because of the touch screen interface and pages are turned like ordinary books and the indexing facility does the searching. This prototype has integrated sounds, data, image &video presentation.

6) What are the benefits of multimedia communication?
The benefits are

- Reduced cost of delivery health care
- Increase revenue opportunities
- Improved patient care
- Education
- Engineering
- Geographic information system(GIS)

7) What is geographic information system and state its uses?
Specially designed computer DBMS are called as GIS. They are used to provide online support for facility such as building roads, power lines and railroads tracks using this system queries are sent to relational database that contains indices for maps, device controls and reports store on the network server.

8) What is Newton technology?

The Newton is the first generation of new convergence of computers communication & consumer products.

9) Write about computer based videophones

Telephone is already incorporated into many different devices such as answering Machine, fax machine and video phones. it relies on compression and decompression of audio & video signal and a modem with it.

10) List some applications of Newton's technology.

- "A speak and spell " Newton for kids
- "A refrigerator magnet " Newton to leave message to other members of the family
- "A white board" Newton might be used in the class room to communicate the ideas.

11) Define continuous media?

Continuous media refers to digital video & audio at the lowest level. The data are a sequence of samples.

12) What is resource management?

The key responsibility of the operating system must now account for a new class of Service, in which time constraints and negotiable service levels must be satisfied.

13) What is meant by Quality of service (QOS)?

The term quality of service is used to represent the application requirement for a given resource.

14) What is admissibility test?

The admissibility test determines whether a service schedule which satisfies the Requirement of existing new clients can be constructed. If so the request can be granted.

15) What is scheduling function?

The resource manager maintains a scheduling function in which currently admitted clients are serviced.

16) What is isochronous data?

Time sampled nature of digital video & audio is referred to as isochronous data.

17) What is intramedia synchronization?

If the continuous media is tightly bounded from the point of generation or retrieval or to point of presentation. It is referred to as intramedia synchronization.

18) What is intermedia synchronization?

If several continuous media streams are presented in parallel potentially from different point of generation they are referred to as intermedia synchronization.

19) What is orchestration?

The management of collection of resource manager to achieve end to end synchronization is referred to as orchestration.

20) What is QOS Architecture?

The definition of QOS parameter which permit system wide orchestration is referred to as QOS architecture.

21) What is skew?

Variation in delay between corresponding elements of two or more synchronized media object is referred to as skew.

22) What is connection oriented service?

The connection oriented services the QOS parameters service user are specifies in the request of connection.

23) What is media device control?

Combination of toolkit functions, programming abstraction and services which provides application programs access to MM peripheral equipment.

24) What is multiservice network?

Network for distributed MM system must support a wide range of traffic requirements such networks is called as multiservice network

25) What is public switched network?

ISDN (integrated service digital network) standardizes, connection interfaces, transmission protocol & services. Asynchronous transfer mode (ATM) is suitable for very high speed fiber optic transmission network.

Unit –II

1.Define Audio?

Audio is defined as a disturbance in air pressure that reaches the human ear drum.

2.What is formant?

It is a frequency region in which the amplitude of the spectral components are significantly raised or lowered.

3.What is phase?

Two waves in the same waveform are said to be in phase if they start in the same point and move in the same direction.

4.Define Nyquist frequency?

Sampling usually happens at equally separated intervals at a rate called as sampling frequency. The highest frequency that can be handled is often called Nyquist frequency.

5.Define Quantisation Noise?

Digital signal is defined only at the time where vertical bars occurs. The difference between a quantized representation and an original analog signal is called as quantization noise.

6.What is Quantisation Error?

Digital signal is defined only at the time where vertical bars occurs. The difference between a quantized representation and an original analog signal is called as quantization Error.

7.Define Delta Modulation?

Delta modulation is to encode not the value of each sample butthe difference between one sample and the next.

8.Define subband coding?

The signals are broken into bands which can be transmitted as a group at lower data rates than required for the original signal.

9.What are the contents of an Audio Frame?

Header, Optional bits(error check), Audio data and Optional Ancillary data.

10.Name the different modes of operation associated with MPEG?

Single mode, Dual mode, Stereo mode and Joint Stereo mode.

11.Define Sampler?

It is an synthesizer that uses the stored sounds .Some samplers only play stored sounds others allow the user to record new sounds.

12. Define Sythesis technique?

It refers an algorithm for generating the digital samples which when played through appropriate conversion h/w and loud speakers sound more or less like the desired musical sounds.

13.Differentiate Absolute time and Delta time?

Absolute time is the time elapsed since the beginning of composition is represented.

Delta time is the time elapsed since the previous event is recorded.

14.What is the use of Text – To – Speech system?

It converts the text symbols to a parameter stream representing sounds. The sounds are concatenated and then the higher-level elements of the speech such as prosody, overall emphasis and stops are added.

15.Define Transducers?

Most things in nature are analog . For Television we must convert the images and sounds into electrical signals. This is done by a sensor called as Transducers.

16.Define Raster?

The conversion of a 2-dimensional image into an 1-dimensional signal is accomplished by scanning that image in an orderly pattern called as raster.

17.Define Frame?

The signal from a complete scan of the image is a sequence of line signals separated by horizontal blanking intervals. This set of scanning lines is called a Frame.

18.Define Aspect Ratio?

It is the ratio of the length of the scanning line horizontally on the image to the distance covered vertically on the image.

19.Define Sync?

The electrical signal sent to the monitor must contain some additional information to ensure that the monitor scanning will be in synchronization with the sensor scanning. This information is called as sync information.

20.Define Resolution?

It is the ability of the television to reproduce the fine detail on the scene.

21.Define Interlace?

Interlace in a television system means that more than one vertical scan is used to reproduce a complete frame.

Unit – III

1.Define compression?

Compression is defined as reducing the amount of data needed to reproduce the image or video.

2.How will you evaluate a compression system?

Three parameters are considered before doing compression

-Amount or degree of compression.

-Image Quality

-Speed of compression or decompression.

3.What is compression Ratio?

It is the ratio between the input data to the output data.

4.How is compression Classified?

It is classified into two types

-lossy compression

-lossless compression

5.Define Redundancy?

Transmitting information more than once is called as redundant information and is classified into two types namely spatial and temporal redundancy.

6.What is Temporal Redundancy?

If the adjacent frames are similar they may be related by a simple function called as translation. This kind of redundancy is called temporal redundancy.

7.Differentiate Lossy and lossless compression?

In lossy compression there will be some change in the picture quality. Lossless compression reproduces the same image after decompression with no change.

8.Define Truncation?

Truncation is a means of reducing the data through lowering of the bits per pixel.

9.Name any three simple compression techniques ?

Truncation, Color Look up table(CLUT) approach and Run-length coding.

10.Write about Run length coding?

The blocks of repeated pixels are replaced with a single value and a count of how many time to repeat that value. It works well in images with solid colors.

11.Define Differential pulse code modulation?

In this method we compare the adjacent pixels and transmit only the difference between them . In decompression the difference information is used to modify the previous pixel to get the new pixel.

12.Define Transform?

A transform is a process that converts a bundle of data into an alternative form which is more convenient for some purpose.

13.Write about Statistical coding?

It is based on the statistical distribution of the pixel values of an image or the statistics of the data. Some data values will occur more frequently and code them using fewer bits of data.

14.Define Motion Compensation?

In motion video there is a redundancy between adjacent frames, a motion video compression can exploit this redundancy. Techniques for dealing with this are prediction and interpolation or a special technique called motion compensation.

15.Define Symmetric Compression or decompression System?

Symmetric Compression or decompression System uses the same hardware for both compression and decompression and is highly expensive.

16.What are the four modes of operation in JPEG?

Sequential encoding, Progressive encoding, Lossless encoding and Hierarchial encoding.

17.What are the different types of pictures in MPEG?

I picture(Intracoded picture)
P picture(Predictive picture)
B picture(Interpolated picture)
D picture

18.What are the different types of layers in MPEG?

Sequence layer, Group of Pictures layer, picture layer, Slice layer, Macroblock layer and Block layer.

19.Differentiate Persistent and Non persistent data object?

Persistent data object exist for the duration of the application and non persistent data object are created dynamically and discarded when not needed.

20.Differentiate Time instant and Time interval?

Time Instant is a zero length moment in time and Time interval is defined by two time instances and are described by 2 endpoints.

21.Write down the Temporal access control operations?

Reverse, Fast Forward, Fast Backward, Random Access, Looping and Pseudo-sequential access.

22.Define Interrupt latency?

Interrupt latency is the time taken for servicing the interrupt.

23.Define Microkernel?

A microkernel is an OS kernel which is only responsible for manipulating low level system resources and is independent from any specific user level computational paradigm.

24.What are the limitations in workstation OS?

Lack of Relatime services and current system do not provide any overload prevention methods.

25.Define Continuous Media application?

Incorporating digital video and audio into the application is called as continuous media application

Unit – IV

1.Define a Presentation system?

Presentation System is a software that allows people to deliver an experience..

2. Write down the Components of a Composite object?

Presentation specfication and synchronization, attributes, anchors and contents.

3. Define DOMF?

Distributed Object Management Facility is an object oriented mechanism by which application, export functionality and data for use by other application.

4. What is Hyper link?

It is an association between two or more objects defined by the user or application developers.

5. Define an Authoring system?

Authoring system is a software program that allows people to create an application experience

6. Name the different modules in HyTime?

Base, Location Address, Hyperlinks. Measurement, Scheduling, Rendition

7. Write down the Components of a Component object?

Presentation specfication, attributes, anchors and contents.

8. Define Temporal Composition?

It is the time analog of spatial composition in the user interface.

9. What are the three layers available in a Distributed Media Control System?

Logical Media Control Layer, Media Connectivity Control Layer, Virtual Media Control layer.

10. Define Mapping Function?

The operation of translating the position of one object to another is called as mapping. The procedure to perform this operation is called Mapping function

11.Define Temporal Coordination?

A Temporal coordinated interface is one in which time based interaction or presentaion areas must be synchronized to achieve some effect.

12.What is Domain Editor?

Domain Editors are application for generating or capturing data of different types such as text animation and audio.

13.Write about Athena Muse?

-developed by Visual Computing Group of MIT's project Athena.

-provides a broad collection of paradigms from which the author or developer can select based on requirements.

14.What are the components in a Quick time file format?

The four major components are as follows

System software, file formats, apple compressors and Human Interface Standards.

15.Name the scripting languages used with Flash and Macromedia Director?

ActionScript with Flash.

Lingo with Macromedia Director.

16.What is the use of media creation tools?

-Tools for generating the original data

-Scanning images

-animation tools and video editing tools.

17. What are the barriers to widespread use of authoring and presentaion system?

a)Cost of acquistion,development and delivery of MM material:

b)Difficulties with Production quality

c)Enforcement of Intellectual property rights

d)Cost,Availability and Ease of Use of Tools.

e)Lack of Standards for Delivery and interchange

f)Lack of a clear vision for MM Application

18.Write about Asymmetric Tool Book?

-It constructs a book consisting pages.

-Each page contains one or more objects

-Interactivity is provided by associating a script called as open script

-operates in two modes

-Author mode, View mode

19. Write about AIMTech Icon Author?

-Workarea contains a sample presentation fowchart.

-Icons in the flowchart contains parameters that are editable.

-No Scripting language

-Use Visual Programming approach

20. Write about Authorware Professional?

-Uses Iconic Programming interface

-difficult to construct because of the inter-dependency of the diff parameters and complexity of the system.

21.What are the three major platforms you know?

IBM PC Compatible

Apple Macintosh

Workstation class computers

22.Write about Print-on-videotape?

Presentation is not interactive

Excellent means of publication and distribution because of the widespread use of VCR's.

23.Write down the features of Distributed Media Control System?

-It provides support for hybrid media(analog and digital)

-Routing layer for providing circuit – switch for the audio-video n/ws.
-Connection management layer for conferencing application..

24.Define Temporary Coordinated interface?

A temporary coordinated interface is one in which several time based interaction and presentation areas must be synchronized to achieve some simulation effect.

25.Write about Movie Repair manual?

The first use of temporal coordination is in Dave Backer's Movie repair manual in which a video segment is synchronized with a rolling text display. The user selects portion of the accompanying text description and has the video segment automatically reposition to the corresponding point in the repair sequence.

Unit – V

1.Name the characteristics of a healthcare application?

Review of medical report, Medical report generation,Teleradiology,Remote pathology,surgical planning and Remote consultation.

2.Name the medical reporting process requirements?

Information Access,Information Presentation and Information manipulation & processing.

3.Write about Information presentation?

Various image display modes are required. Audio annotation and reports have to be available. Compression is acceptable for both image and video transmission and will lead to significant reduction in the bandwidth requirements.

4.Name the medical consultation process requirements?

Conferencing, Information sharing and Collaboration Environment.

5.Define Teleservices?

It denotes the services for collaboration of distributed access to multiple media, management and control of multipoint multiuser and multichannel connections, security and privacy control..

6.Define Access services?

The services for the user to access high bandwidth data.

7.Define Mediaservices?

Facilities for any end user application collaboration, distributed access to multiple media and coordination of multiple media streams.

8.Define Session services?

Facilities for multicast exchange of diverse data stream management and control of multiuser, multipoint and multichannel connections.

9.Define Mediaware?

The software system which implements the media services are called as mediaware.

10.Define middleware?

The Software system which provides the session services are called as Middleware.

11.What is Media Presentation?

It provides a layer of services to support access to distributed and multiple media information.

12.Write about Media control?

It provides a layer of services to support sharing of and collaboration with multiple media information in multiuser communication.

13.Differentiate Broadcast and Multicast facilities?

Broadcast facilitates message passing to all parties and multicast facilitates message passing to a subset of session members.

14.Name the types of Broadband services?

-Switched Multi Megabit Data Service.
-Cell Relay service.
-Continuous Bit Rate Service.
-Private Line Access Service.

15.What are the types of Wide Band Service?

-Primary Rate ISDN.
-Frame Relay service.
-Private Line Access Service.

16.How is network classified?

-Private Network
-Switched Network
-Meteropolitan Area Network.

17.What is the use of layer management?

The layer management provides the protocols for communication and the plane management takes care of operations and maintains the communication between the layers.

18.Write about QMF fileformat?

It is file format for storing MM contenet and it uses a track model for organizing the temporally related data for a movie?

19.Define an Atom?

An atom is a basic building block of a Quick Time Movie File.

20.What are the different types of atoms available?

Movie atom, Track atom, Media atom and User defined data atom.

21.Write about virtual museum?

A popular quick time application called virtual museum was developed by Apple advanced technology group. It is a hyper card based application which has searching facility and navigation facility.

22.What is MHEG?

Multimedia and Hypermedia Information Encoding Expert Group(MHEG) is an ISO working group that defines and object oriented model for multimedia and hypermedia interchange.

23.What is Global object index?

A table of all objects and their position in the object set is provided to support fast look up of objects.

24.What is object placement optimization?

Objects are stored so that objects likely to be accessed simultaneously are adjacent from the standpoint of the access mechanism.

25.Define Multimedia Conferencing?

It is a technology for supporting communication with multiple parties and media. These need application programming interface(API's) which will enable applications to access and control communication service.