SRI SAIRAM ENGINEERING COLLEGE

DEPARTMENT OF INFORMATION TECHNOLOGY

2 MARK Q&A

UNIT-1

1. What is scan conversion?
A major task of the display processor is digitizing a picture definition given in an application program into a set of pixel-intensity values for storage in the frame buffer. This digitization process is called scan conversion.

2. Write the properties of video display devices?
Properties of video display devices are persistence, resolution, and aspect ratio.

3. What is rasterization?
The process of determining the appropriate pixels for representing picture or graphics object is known as rasterization.

4. Define Computer graphics.
Computer graphics remains one of the most existing and rapidly growing computer fields. Computer graphics may be defined as a pictorial representation or graphical representation of objects in a computer.

5. Name any four input devices.
Four input devices are keyboard, mouse, image scanners, and trackball.

6. Write the two techniques for producing color displays with a CRT?
Beam penetration method, shadow mask method

7. What is vertical retrace of the electron beam?
In raster scan display, at the end of one frame, the electron beam returns to the left top corner of the screen to start the next frame, is called vertical retrace of the electron beam.

8. Short notes on video controller?
Video controller is used to control the operation of the display device. A fixed area of the system is reserved for the frame buffer, and the video controller is given direct access to the frame buffer memory.

9. What is bitmap?
Some system has only one bit per pixel; the frame buffer is often referred to as bitmap.

10. Differentiate plasma panel display and thin film electro luminescent display?
In plasma panel display, the region between two glass plates is filled with neon gas. In thin film electro luminescent display, the region between two glasses plates are filled with phosphor, such as zinc sulphide doped with manganese.

11. What is resolution?
The maximum number of points that can be displayed without overlap on a CRT is referred to as the resolution.

12. What is horizontal retrace of the electron beam?
In raster scan display, the electron beam return to the left of the screen after refreshing each scan line, is called horizontal retrace of the electron beam.

13. What is filament?
In the CRT, heat is applied to the cathode by directing a current through a coil of wire, is called filament.
14. What is pixmap?
Some system has multiple bits per pixel, the frame buffer is often referred to as pixmap.
15. Write the types of clipping?
Point clipping, line clipping, area clipping, text clipping and curve clipping.
16. What is meant by scan code?
When a key is pressed on the keyboard, the keyboard controller places a code carry to the key pressed into a part of the memory called as the keyboard buffer. This code is called as the scan code.
17. List out the merits and demerits of Penetration techniques?
The merits and demerits of the Penetration techniques are as follows
• It is an inexpensive technique
• It has only four colors
• The quality of the picture is not good when it is compared to other techniques
• It can display color scans in monitors
• Poor limitation etc.
18. List out the merits and demerits of DVST?
The merits and demerits of direct view storage tubes [DVST] are as follows
• It has a flat screen
• Refreshing of screen is not required
• Selective or part erasing of screen is not possible
• It has poor contrast
Performance is inferior to the refresh CRT.
19. What do you mean by emissive and non-emissive displays?
The emissive display converts electrical energy into light energy. The plasma panels, thin film electro-luminescent displays are the examples.
The Non-emissive are optical effects to convert the sunlight or light from any other source to graphic form. Liquid crystal display is an example.
20. List out the merits and demerits of Plasma panel display?
Merits
• Refreshing is not required
• Produce a very steady image free of Flicker
• Less bulky than a CRT.
Demerits
• Poor resolution of up to 60 d.p.i
• It requires complex addressing and wiring
• It is costlier than CRT.
21. What is persistence?
The time it takes the emitted light from the screen to decay one tenth of its original intensity is called as persistence.

22. What is Aspect ratio?
The ratio of vertical points to the horizontal points necessary to produce length of lines in both directions of the screen is called the Aspect ratio. Usually the aspect ratio is ¾.
23. What is the difference between impact and non-impact printers?
Impact printer press formed character faces against an inked ribbon on to the paper. A line printer and dot-matrix printer are examples.
Non-impact printer and plotters use Laser techniques, inkjet sprays, Xerographic process, electrostatic methods and electro thermal methods to get images onto the papers. Examples are: Inkjet/Laser printers.
24. Define pixel?
Pixel is shortened forms of picture element. Each screen point is referred to as pixel or pel.
25. What is frame buffer?
Picture definition is stored in a memory area called frame buffer or refresh buffer.
26. Where the video controller is used?
A special purpose processor, which is used to control the operation of the display device, is known as video controller or display controller.
27. What is run length encoding?
Run length encoding is a compression technique used to store the intensity values in the frame buffer, which stores each scan line as a set of integer pairs. One number each pair indicates an intensity value, and second number specifies the number of adjacent pixels on the scan line that are to have that intensity value.
28. What is point in the computer graphics system?
The point is a most basic graphical element & is completely defined by a pair of user coordinates (x, y).
29. Write short notes on lines?
A line is of infinite extent can be defined by an angle of slope q and one point on the line P=P(x,y). This can also be defined as y=mx+C where C is the Yintercept.
30. Define Circle?
Circle is defined by its center xc, yc and its radius in user coordinate units. The equation of the circle is (x-xc) + (y-yc) = r2.
31. What are the various attributes of a line?
The line type, width and color are the attributes of the line. The line type include solid line, dashed lines, and dotted lines.
32. What is antialiasing?
The process of adjusting intensities of the pixels along the line to minimize the effect of aliasing is called antialiasing.
33. What is Transformation?
Transformation is the process of introducing changes in the shape size and orientation of the object using scaling rotation reflection shearing & translation etc.
34. What is translation?
Translation is the process of changing the position of an object in a straight-line path from one coordinate location to another. Every point (x , y) in

the object must under go a displacement to (x|,y|). the transformation is:
x| = x + tx ; y| = y+ty

35. What is rotation?

A 2-D rotation is done by repositioning the coordinates along a circular path, in the x-y plane by making an angle with the axes. The transformation is given by: X| = r cos (q + f) and Y| = r sin (q + f).

36. What is scaling?

A 2-D rotation is done by repositioning the coordinates along a circular path, in the x-y plane by making an angle with the axes. The transformation is given by: X| = r cos (q + f) and Y| = r sin (q + f).

37. What is shearing?

The shearing transformation actually slants the object along the X direction or the Y direction as required. ie; this transformation slants the shape of an object along a required plane.

38. What is reflection?

The reflection is actually the transformation that produces a mirror image of an object. For this use some angles and lines of reflection.

39. What are the two classifications of shear transformation?

X shear, y shear.

40. A point (4,3) is rotated counterclockwise by an angle of 45°. Find the rotation matrix and the resultant point.

41. Name any three font editing tools.

ResEdit, FONTographer,

42. Differentiate serif and sans serif fonts. Give one example

Serif fonts has a little decoration at the end of the letter, but serif font has not. Times, new century schoolbook is the examples of serif fonts. Arial, potima are examples for sans serif fonts.

43. Distinguish between window port & view port?

A portion of a picture that is to be displayed by a window is known as window port. The display area of the part selected or the form in which the selected part is viewed is known as view port.

44. Define clipping?

Clipping is the method of cutting a graphics display to neatly fit a predefined graphics region or the view port

45. What is the need of homogeneous coordinates?

To perform more than one transformation at a time, use homogeneous coordinates or matrixes. They reduce unwanted calculations intermediate steps saves time and memory and produce a sequence of transformations.

46. Distinguish between uniform scaling and differential scaling?

When the scaling factors sx and sy are assigned to the same value, a uniform scaling is produced that maintains relative object proportions. Unequal values for sx and sy result in a differential scaling that is often used in design application

47. What is fixed point scaling?

The location of a scaled object can be controlled by a position called the fixed point that is to remain unchanged after the scaling transformation.

48. What is the purpose of presentation graphics?
Presentation graphics is used to produce illustrations for reports or to generate 35-mm slides or transparencies for use with projectors. Presentation graphics is commonly used to summarize financial, statical, mathematical, scientific, and economic data for research reports, managerial reports, consumer information bulletins, and other types of reports.

49. Define refresh buffer/frame buffer.
The memory area where in picture definition is stored is called Refresh buffer. This memory area holds the set of intensity values for all the screen points. On a black and white system with one bit per pixel, the frame buffer is called a bitmap.

50. What is Output Primitive?
Basic geometric structures that describe a scene are referred to as geometric components of pictures. Additional output primitives that can be used to construct a picture include circles and other conic sections, quadric surfaces, spline curves and surfaces, polygon color areas, and character strings.

51. What is DDA?
The Digital Differential Analyzer is a scan-conversion line algorithm based on calculating either difference in y-coordinate (dy) or difference in x-coordinate. We sample the line at unit intervals in one coordinate and determine corresponding integer values nearest the line path for the other coordinate.

52. What are the disadvantages of DDA algorithm?
- Round-off error in successive additions of the floating-point increment can cause the calculated pixel positions to drift away from the true line path for long line segments.
- Rounding operations and floating-point arithmetic in procedure are still time-consuming.

53. What is attribute parameter?
Any parameter that affects the way a primitive is to be displayed is referred to as an attribute parameter.

54. What are the basic line attributes?
Basic attributes of a straight line segment are its type, its width, and its color.

55. What is meant by aliasing?
The distortion of information due to low frequency sampling (Under sampling) is called aliasing. We can improve the appearance of displayed raster lines by applying antialiasing methods that compensate for the under sampling process.

56. Define Window.
A world-coordinate area selected for display is called a window.

57. Define view port.
An area on a display device to which a window is mapped is called a view port.

58. What is viewing transformation?
The mapping of a part of a world-coordinate scene to device coordinates is referred to as viewing transformation.

UNIT-2

1. What is Bezier Basis Function?
Bezier Basis functions are a set of polynomials, which can be used instead of the primitive polynomial basis, and have some useful properties for interactive curve design.
2. What is surface patch
A single surface element can be defined as the surface traced out as two parameters (u, v) take all possible values between 0 and 1 in a two-parameter representation. Such a single surface element is known as a surface patch.
3. Define B-Spline curve?
A B-Spline curve is a set of piecewise(usually cubic) polynomial segments that pass close to a set of control points. However the curve does not pass through these control points, it only passes close to them.
4. What is a spline?
To produce a smooth curve through a designed set of points, a flexible strip called spline is used. Such a spline curve can be mathematically described with a piecewise cubic polynomial function whose first and second derivatives are continuous across various curve section.
5. What are the different ways of specifying spline curve?
• Using a set of boundary conditions that are imposed on the spline.
• Using the state matrix that characteristics the spline
• Using a set of blending functions that calculate the positions along the curve path by specifying combination of geometric constraints on the curve
6. What are the important properties of Bezier Curve?
• It needs only four control points
• It always passes through the first and last control points
• The curve lies entirely within the convex half formed by four control points.
7. Define Projection?
The process of displaying 3D into a 2D display unit is known as projection. The projection transforms 3D objects into a 2D projection plane
8. What are the steps involved in 3D transformation?
• Modeling Transformation
• Viewing Transformation
• Projection Transformation
Workstation Transformation
9. What do you mean by view plane?
A view plane is nothing but the film plane in camera which is positioned and oriented for a particular shot of the scene.

10. Define projection?
The process of converting the description of objects from world coordinates to viewing coordinates is known as projection
11. What you mean by parallel projection?
Parallel projection is one in which z coordinates is discarded and parallel lines from each vertex on the object are extended until they intersect the view plane.
12. What do you mean by Perspective projection?
Perspective projection is one in which the lines of projection are not parallel. Instead, they all converge at a single point called the center of projection.
13. What is Projection reference point?
In Perspective projection, the lines of projection are not parallel. Instead, they all converge at a single point called Projection reference point.
14. Define computer graphics animation?
Computer graphics animation is the use of computer graphics equipment where the graphics output presentation dynamically changes in real time. This is often also called real time animation.
15. What is tweening?
It is the process, which is applicable to animation objects defined by a sequence of points, and that change shape from frame to frame.
16. Define frame?
One of the shape photographs that a film or video is made of is known as frame.
17. What is key frame?
One of the shape photographs that a film or video is made of the shape of an object is known initially and for a small no of other frames called keyframe
18. Categorize the 3D representations?
Boundary representation (B-reps) and space-partitioning representations.
19. What Boundary representation?
It describes a 3D object as a set of surfaces that separate the object interior from the environment. e.g. polygon facets and spline patches.
20. What space-partitioning representation?
This is used to describe interior properties, by partitioning the spatial region containing an object in to a set of small, non-overlapping, contiguous solids. e.g. octree.
21. What is Blobby Object?
Some objects do not maintain a fixed shape, but change their surface characteristics in certain motions or when in proximity to other objects. Examples in this class of objects include molecular structures, water droplets and other liquid effects, melting objects and muscle shapes in the human body. These objects can be described as exhibiting "blobbiness" and are often simply referred to as blobby objects, since their shapes show a certain degree of fluidity.
22. What are the types of projection?
- Perspective projection
- Parallel projection

23. What is chromaticity?
The term chromaticity is used to refer collectively to the two properties describing color characteristics: Purity and dominant frequency.
24. Define Color model.
A Color model is a method for explaining the properties or behavior of color within some particular context.
25. What are the uses of chromaticity diagram?
The chromaticity diagram is useful for the following:
- Comparing color gamuts for different sets of primaries.
- Identifying complementary colors.
- Determining dominant wavelength and purity of a given color.

26. What is HSV model?
The HSV(Hue,Saturation,Value) model is a color model which uses color descriptions that have a more intuitive appeal to a user. To give a color specification, a user selects a spectral color and the amounts of white and black that are to be added to obtain different shades, tint, and tones.
27. What for CMY color model used?
A color model defined with the primary colors cyan, magenta, and yellow is useful for describing color output to hard-copy devices.
28. Define Computer animation.
Computer animation refers to any time sequence of visual changes in a scene. In addition to changing object position with translations or rotations, a computer generated animation could display time variations in object size, color, transparency, or surface texture.
29. What are the steps in animation sequence?
- Story board layout
- Object definition
- Key-frame specifications
- Generation of in-between frames

30. How frame-by-frame animation works?
Here each frame of the scene is separately generated and stored. Later the frames can be recorded on film or they can be consecutively displayed in "real-time playback" mode.
31. What is morphing?
Transformation of object shapes from one form to another is called morphing.
32. What are the methods of motion specifications?
- Direct motion specification
- Goal-directed Systems
- Kinematics and Dynamics.

UNIT- 3
1. Give some Multimedia applications.
- Document imaging

- Image processing and Image recognition
- Full-Motion Digital Video Applications
- Electronic Messaging

2. What are the multimedia elements?

Facsimile, Document images, Photographic images, Geographical information system maps, Voice commands and voice synthesis, Audio messages, Video

3. What is Holography?

It is defined as the means of creating a unique photographic image without the use of a lens.

4. What is hologram?

The photographic recoding of the image is called a hologram, which appears to be an unrecognizable pattern of stripes and whorls but which when illuminate by coherent light as by a laser beam, organizes the light in to 3D representation of the original object.

5. What are the important processes in image processing?

Image recognition, image enhancement, image synthesis, and image reconstruction.

6. What are complex image enhancement capabilities?

Image calibration, Real- time alignment, Gray-scale normalization, RGB hue intensity adjustment, Color separation, Frame averaging.

7. What is VGA mixing?

Here, the image acquisition memory also serves as the display source memory, thereby fixing its position and size on screen.

8. What is Dual-buffered VGA mixing / scaling?

Double buffer schemes maintain the original images in a decompression buffer and the resized image in a display buffer.

9. What is hypermedia documents?

In hypermedia documents in addition to text, embedded or linked multimedia objects such as image, audio, hologram, or full -motion video.

10. What are the sub-systems in DSP?

Memory management, hardware- interrupt handling, Multitasking, Inter task synchronization and communication, Multiple timer services, Device-independent I/O.

11. What are the types of images based on multimedia?

Visible images, non-visible images, abstract images.

12. What does non-visible images refer?

images e.g. pressure gauges, temperature gauges

13. What are abstract images?

Abstract images are really not images that ever existed as real-world objects or representations. Rather they are computer-generated images based on some arithmetic calculations. e.g. fractals.

14. What is DVI?

The Digital Video Interface (DVI) standard was defined to provide a processor-independent specification for a video interface that could accommodate most compression algorithms for fast multimedia displays.

15. What is MIDI?

This is the interface standard for file transfer between a computer and a musical instrument such as a digital piano.

16. What is Apple's Quick time?

The QuickTime standard, developed by Apple Computer, is designed to support multimedia applications. Apple's QuickTime is viewed as a multimedia interface that is evolving to become a standard part of the Apple as well as MS-Windows-based systems.

17. What is JPEG?

The Joint Photographic Experts Group, formed as a joint ISO and CCITT working committee, is focused exclusively on still- image compression.

18. What is called Asymmetrical compression based on Compression?

These are applications that need to be compressed once but are read many times.

19. What are the considerations in Multimedia storage?

Massive storage volumes, large object sizes, multiple related objects, temporal requirements for retrieval.

20. What are the strengths of object oriented s/w?

Encapsulation, Association, Classification.

21. Define Multimedia

Multimedia is the use of the computer to present and combine text, graphics, audio and video with links and tools that lets the user to navigate, interact, create and communicate.

22. What is multimedia PC:

A multimedia PC is a computer that has a CD-ROM or DVD drive and supports 8-bit and 16-bit waveform audio recording and playback, MIDI sound synthesis, and MPEG movie watching, with a central processor fast enough and a RAM large enough to enable the user to play and interact with these media in real time, and with a hard disk large enough to store multimedia works that the user can create.

23. Where to use multimedia?

Multimedia improves information relation. Multimedia applications includes the following:

_ Business
_ Schools
_ Home
_ Public place

24. List out the benefits of multimedia

Benefits of multimedia are

_ Training
_ Sales
_ Communications
_ Medicines

25. What is hypermedia?

A set of documents in which a given document can contain text, graphics video and audio clips as well as embedded references to other documents world wide web pages are hypermedia documents.

26. What is hypertext?

Hyper text is an application of indexing text to provide a rapid search of specific text strings in one or more documents. Hypertext is an integral part of hypermedia documents. In multimedia applications, a hypermedia documents is the basic complex object of which text is a sub-object. Other sub-objects in the basic object include images, sound, and full-motion video.

27. List out the building blocks of multimedia.

_ Text
_ Image
_ Sound
_ Animation
Video

28. What are the main functions of a multimedia development system?

Multimedia development system must perform main three functions as follows:

_ Input data
_ Development
_ Data output

Data input from sources such as cameras or musical instruments, application development, and data output to some delivery medium such as a videodisk or CD-ROM.

29. Define Typeface

Typeface is measured in point sizes, where one point is approximately 1/72 of an inch. It is a measure of the height of the metal blocks containing letters.

30. Define the following:

(i) X-height (ii) Set (iii) Kerning

X-height: The X-height is the measurement of the height of the character X, in other words of the middle bit without any ascender or descender.

(ii) Set: The width of the letters is called the set and is fixed relative to the point-size.

(iii) Kerning: The spaces between letters in one world (tracking) can be adjusted in a process called kerning.

31. Define the following respective to sound:

(i) Waveform (ii) Frequency (iii) Amplitude

i) Waveform

Sound is produced by the vibration of matter. During the vibration pressure variation are created in the air surrounding it. The pattern of the oscillation is called a waveform.

(ii) Frequency

The frequency of the sound is the reciprocal value of the period. It represents the number of period s in a second and it is measured in Hertz (Hz) or cycles per second.

(iii) Amplitude

A sound also has amplitude. The amplitude of a sound is a measure of the displacement of the air pressure wave from its, or quiescent state.

32. Define quantization (or) resolution?

The resolution (or) quantization of a sample value depends on the number of bits used in measuring the height of the waveform. An 8-bit quantization yields 256 possible values, 16-bit CD-qudra quantization results in over 65536 values.

33. What are the types of sound objects that can be used in multimedia production?

There are four types of sound objects that can be used in multimedia production:

_ Waveform audio
_ MIDI sound tracks
_ Compact disc (CD) audio
_ MP3 files

34. List out the components of MIDI interface.

A MIDI interface has two different components:

_ Hardware
_ Data format

Hardware connects the equipment. It specifies the physical connection between musical instruments, stimulate that a port MIDI port is built into an instrument, specifies a MIDI cable and deals with electronic signals t that are sent over the cable.

Data format encodes the information traveling through the hardware MIDI data format includes an instrument –connected data format. The encoding includes, besides the instrument specification, the notion of the beginning and end of a note, basic frequency and sound volume; MIDI data allow an encoding of about 10 octaves, which corresponds to 128 notes.

35. Define the term flicker in video.

A periodic fluctuation of brightness perception is called flicker effect.

36. Define Random scan/Raster scan displays?

Random scan is a method in which the display is made by the electronic beam which is directed only to the points or part of the screen where the picture is to be drawn.

The Raster scan system is a scanning technique in which the electrons sweep from top to bottom and from left to right. The intensity is turned on or off to light and unlight the pixel.

37. What is an MPC?

The MPC computer is not a hardware unit but rather a standard that includes minimum specifications to turn Intel microprocessor-based computers into multimedia computers.

38. List all the MPC standards

There are currently three MPC standards as follows

_ MPC Level 1
_ MPC Level 2
_ MPC Level 3

The standards apply not only to desktop computers but also to increasingly more powerful multimedia laptops.

39. What is configuration of MPC level 1 standards?

The MPC level 1 minimum standard workstation consisted of a 16MHz 386SX microprocessor, atleast 2MB of RAM, a 30MB Hard disk, a CD-ROM

drive, VGA video (16 colors), an 8-bit audio board, speakers and/or headphones, and Microsoft windows software with the Multimedia Extensions package.

40. Write the configuration of MPC level 2 standards.

MPC level 2 minimum standard consisted of a 25MHz 486SX microprocessor with atleast 4MB of RAM, a 3.5-inch high density, a 160 MB or larger hard disk drive, and a CD-ROM drive capable of sustained 300k per second transfer rate with CD-DA outputs and volume control, 16-bit sound capability with microphone input, and a color monitor with display resolution of atleast 640 X 480 with 65,536(64k) colors.

41. List out the input devices of multimedia.

Input devices for a multimedia system are as follows:

_ Keyboards
_ Mouse
_ Trackball
_ Touch screen
_ Magnetic card Encoders and Readers
_ Graphics Tablets
_ Scanners
_ Optical Character Recognition (OCR) devices
_ Voice Recognition Systems
_ Digital cameras

42. What is a Video disk?

Video disk serves as the output of motion pictures and audio. The data are stored in an analog-coded format on the disk. The reproduced data meet the highest quality requirements. Video disk has a diameter of approximately 30cm and stores approximately 2.6 Giga bytes.

43. What is synchronization?

Integration of the different media is given through a close relation between information units. This is called synchronization.

44. What is meant by Multimedia User Interface?

Multimedia user interface is a computer interface that communicates with users multiple media.

UNIT IV

1. Define Cadence.

Cadence is a term used to define the regular rise and fall in the intensity of sound.

2. Say some loss less compression standards?

Pack bits encoding, CCITT Group3 1D, CCITT Group3 2D, CCITT Group4, Lembel- Ziv and Welch algorithm LZW.

3. Say some lossy compression standards?

JPEG(Joint photographic Experts Group),MPEG(Moving Picture Experts Group),Intel DVI,CCITT H.261 video coding algorithm, Fractals.

4. What are the advantages of CCITT Group 3 1D?

- It is simple to implement in both h/w and s/w.
- It is a world wide standard for facsimile, which is accepted for document

imaging application. This allows document- imaging applications to incorporate fax documents easily.

5. What is the disadvantage of CCITT Group 3 2D Scheme?

It is complex and relatively difficult to implement in software.

6. What is Luminance?

Luminance refers to brightness. This is a measure of the brightness of the light emitted or reflected by an object.

7. What are the levels of definition in JPEG standards?

Baseline system, Extended system, special loss less function.

8. Define Quantization.

It is a process of reducing the precision of an integer, thereby reducing the number of bits required to store the integer.

9. What are the controls in VCR paradigm?

play, fast, forward, rewind, search forward, and rewind search.

10. What are types of moving picture?

Intra picture, Unidirectional predicted pictures, Bi-directional predicted pictures.

11. What are the factors that affect video performance?

Microprocessor speed, Play back window size, Frame rate.

12. What is fractal?

A fractal is a multidimensional object with an irregular shape or body that has whether it gets smaller or bigger in size.

13. What are multimedia file formats?

Rich-Text Format(RTF), Tagged image file format(TIFF), Resource image file format(RIFF), Musical instrument digital interface(MIDI), Joint Photographic Experts Group, Audio Video Interchanged Indeo file Format(AVI), TWAIN.

14. What is digital pen?

A digital pen is a powerful input device that allows the user to write, draw, point and gesture.

15. What are the components of PEN?

Electronic pen and digitizer, Pen driver, Recognition context manager, Recognizer, Dictionary, Display driver.

16. What are the display performance issues?

N/w b/w, Decompression or decoding, Display technology.

17. What is roping?

Roping causes straight lines to appear twisted or helical. This is caused by poor convergence as successive pixels in the line show different edge colors.

18. Write the four basic technologies used for flat panel displays.

Passive- matrix monochrome, Active- matrix monochrome, Passive- matrix color, Active-matrix color.

19. What are the components of Laser printer?

Paper feed mechanism, Laser assembly, Corona assembly, Fuser, Toner artridge.

20. What are the main characteristics of voice recognition system?

Separation b/w words, Speaker dependency and speaker- independent recognition, Use of phonemes, Vocabulary size.

21. Define the following terms:

(i) Compression Ratio (ii) Image Quality

(i) Compression Ratio: The Compression Ratio represents the size of the original image divided by the size of the compressed image.

(ii) Image Quality: Compression ratio typically affects picture quality, the higher the compression ratio, the lower the quality of the decompressed image.

22. What are the higher levels of multimedia communication system (MCS)?

The higher layers of the multimedia communication system are divided into two architectural subsystems:

- Application subsystem
- Transport subsystem.

23. Define collaborative computing environment?

The recent infrastructure of networked workstations and pcs, and the availability of audio and video at these end points, makes it easier to people to cooperate and bridge space and time. In this way, network connectivity and endpoint integration of multimedia provide users with a collaborative computing environment. It is generally known as computer supported cooperative work (CSCW).

24. List out the tools for collaborative computing

The tools used for collaborative computing are as follows:

- Electronic mail
- Bulletin boards(e.g. Usenet news)
- Screen sharing tools(e.g. show me from sunsoft)
- Text-based conferencing systems (e.g. Internet relay chat, CompuServe, America online).
- Telephone conference systems.
- Conference rooms(e.g. video window from Bellcore)
- Video conference systems(e.g.,Mbone tools)

UNIT V

1. What are the design issues for multimedia authoring?

Display resolution, Data formats for captured data, Compression algorithms, Network interfaces, and Storage formats.

2. What are the types of Multimedia authoring Systems?

Dedicated Authoring system, Timeline-Based Authoring, Structured Multimedia systems, Telephone Authoring Systems.

3. Classify the User interface development tools?

Media editors, An authoring application, Hypermedia object creation, Multimedia object locator and browser.

4. What is the purpose of zooming?

Zooming allows the user to see more detail for a specific area of the image.

5. What is panning?

Panning implies that the image window is unable to display the full image at the selected resolution for display. In that case the image can be panned left to right or right to left as well as top to bottom or bottom to top. Panning is useful for finding detail that is not visible in the full image.

6. What are the steps needed for Hypermedia report generation?

Planning, Creating each component, Integrating components.

7. Define mail message.

Mail message is a message of a well-defined type that must include a message header and may include note parts, attachments, and other application-defined components. Note parts may include text, bitmaps, pictures, sound, and video components.

8. What are the components of a distributed Multimedia system?

Application s/w, Container object store, Image and still video store, Audio and video component store, Object directory service agent, Component service agent, User interface service agent, Networks.

9. What are the characteristics of Document store?

Primary document storage, Linked object storage, Linked object management.

10. What are key issues in data organization for multimedia systems?

Data independence, Common Distributed Database Architecture, Multiple Data servers.

11. What are the key elements in object server architecture of multimedia applications?

Object name server, Object directory manager, Object server, Object manager, Network manager, Object data store.

12. What are the functions performed by object request broker?

Object recompilation, Playback control, Format conversion.

13. What are the issues in database replication techniques?

sharing of all data objects by all users on the networks, Providing acceptable performance to all users, allowing all users to update the database depending on the tasks being performed by them.

14. What are the types of database replication?

Round-robin replication, manual replication, scheduled replication, immediate replication, replication-on-demand, predictive replication, replicating references, no replication.

15. What are the primary n/w topologies used for multimedia?

traditional LANS, extended LANS, High-speed LANS, WANS

16. Give the primary goal of MAPI.

Separate client applications from the underlying messaging services, Make basic mail-enabling a standard feature for all applications, Support messaging-reliant workgroup applications.

17. What is the purpose of MIME?

Multipurpose Internet Mail Extension specification defines mechanisms for generalizing the message content to include multiple body parts and multiple data types.

18. What are the characteristics of image and still video stores ?

Compressed information, Multi- image documents, Related annotations, Large volumes, Migration b/w high- volume media such as an optical disk library and high-speed media such as magnetic cache storage, shared access.

19. What are the services provided by a directory service agent?

Directory service, Object assignment, Object status management, Directory service domains, Directory service server elements, n/w access.

20. What are the services provided by User Interface Agent?
Services on workstations, Using display s/w
21. What is group communication (GC)?
Group communication (GC) involves the communication of multiple users in a synchronous or an asynchronous mode with centralized or distributed control.
22. What are the consistent of a group communication?
Group communication architecture consists of the following:
• Support model
• System model
• Interface model
The GC support model includes group communication agents that communicate via a multi-point multi-cast communication network.
23. Define the term Group Rendezvous?
Group rendezvous denotes a method, which allows one to organize meetings and to get information about the group, ongoing meetings and other static and dynamic information.
24. List out some examples for interface model protocols.
Synchronous rendezvous methods use:
• Directory services
• Explicit invitations
Directory services access information stored in a knowledge base about the conference, such as the name of the conference, registered participants, authorized users and name and role of the participants
25. What are the advantages and disadvantages of replicated architecture?
The advantages of replicated architecture are:
• Low network traffic
• Low response times
Low network traffic is because only input events are distributor among the sites and low response times, since all participants get their output from local copies of the application.
The disadvantages are the requirement of the same execution environment for the application of each site, and the difficulty in maintaining consistency.
26. What are the advantages and disadvantages of centralized conference control?
The advantage of the centralized conference control is guaranteed consistency of the conference state. The disadvantage is that when a new participant (outside of the invited group) wants to join, explicit exchange of the conference state must be performed among all participants, which causes large delays.
27. What are the advantages of distributed conference control?
Advantages of distributed conference control are:
• Inherent fault tolerance-If a network connection breaks down in the middle of a conference and it is repaired, it is easier to re-establish the shared conference state since there is no strict consistency requirement.
• Scaling properties-At some point refresh periodicity needs to adapt to the size and scope of the conference, otherwise, the conference may be in danger of flooding itself with session reports.

28. What is a session manager?

Session management architecture is built around an entity session manager, which separates the control from the transport. By creating a reusable session manager, which is separated from the user interface, conference oriented tools avoid a duplication of their effort.

29. List the various functionalities of session manager

Session manager includes local and remote functionalities. Local functionalities include:

- Membership control management
- Floor control
- Media control management
- Configuration management
- Conference control management

30. What are the contents of synchronization?

Synchronization in multimedia systems comprises of content, spatial and temporal relations between media objects.

31. What is presentation requirement?

Presentation requirements consist of intra-object synchronization, the accuracy concerning delays in the presentation of LDUs and, for inter-object synchronization, the accuracy in the parallel presentation of media objects.