**Tutorial I**

1. Discuss the characteristics of multimedia: nonlinear versus linear content. (6 marks)

Slide 1.2

Linear Multimedia: Projects that are not interactive. Users have very little control over the presentation.

Users watch from beginning to end.

Linear active content progresses without any navigation control for the viewer.

A movie is a common type of linear multimedia.

Nonlinear (interactive) Multimedia : Projects that are user-interactive, where users are given navigational control.

Users are given navigational control and can wonder through the content.

Advantage: complex domain of information can be presented.

Useful for: information archive (encyclopedia), education, training and entertainment.

2. Differentiate among bitmap, vector, and 3-D images and describe the capabilities and limitations of all three. (9 marks)

Bitmap slide 3.2

* Bitmap is derived from the words ‘bit’, which means the simplest element in which only two digits are used, and ‘map’, which is a two-dimensional matrix of these bits.
* A bitmap is a data matrix describing the individual dots or pixel of an image.
* Bitmaps are used for photo-realistic images and for complex drawings requiring fine detail.
* Bitmapped images are known as paint graphics.
* A bitmap is made up of individual dots or picture elements known as pixels.
* Bitmapped images can have varying bit and color depths.

Vector slide 3.3

* Used for lines, rectangles, geometric objects- stored mathematically
* CAD (computer aided design) programs created complex and geometric renderings needed by architects and engineers
* Graphic artists use vector graphics to eliminate the “jaggies”
* Programs for 3-D animation use vector graphics for rotation, spinning and shading
* Bitmaps are made of pixels, while vector images are software-created and based on mathematical calculations.
* Vector objects are easily scalable
* Sometimes a single bitmap gives better performance than many vector images required to make the same image

Bitmap Vs. Vectors

* Vector drawings are easily scaled
* Vector files are usually smaller
* Calculation time can draw resources
* Bitmaps cannot easily be converted to vector
* Vector drawings require plug-ins

Slide 3.4

* Object in 3-D space carry many properties such as shape, color, texture, location… and a scene often contains many objects.

1. Compare the characteristics of multimedia and interactive multimedia. (6 marks)

Multimedia is characterized as a mixture of multiple media elements such as text, photo, sound, etc whereas in the interactive multimedia the client should talk directly with the computer machine.

In multimedia the people is monitoring the information whereas in the interactive multimedia the people is involving in the multimedia system.games in the computer system is one of the examples of this.

4. Discuss the different types of multimedia projects and feature of authoring tools. (9 marks)

Slide 1.2

Linear Multimedia: Projects that are not interactive. Users have very little control over the presentation.

Nonlinear (interactive) Multimedia : Projects that are user-interactive, where users are given navigational control.

Features of authoring tools

Editing and organizing features.

Programming features.

Interactivity features.

Performance tuning and playback features.

Delivery, cross-platform, and Internet playability features.

5. **Choose the correct answer (10 marks)**

1. Which of the following is not a color specification format?

(a) RGB (b) HSB (c) GIF (d) CMYK

1. Which image file type is best for photographs?

(a) vector (b) encapsulated postScript (c) bitmap (d) shockwave

1. -------------- allows an end user to control what and when the elements are delivered.

(a) Multimedia (b) Interactive Multimedia (c) Hypermedia (d) Hypertext

1. The software vehicle, the messages, and the content presented on a computer or television screen together make up:

(a) a multimedia project (b) a CD-ROM (c) a web site (d) a multimedia title

1. A multimedia structure in which users navigate freely through the content of the project, unbound by predetermined routes, could be called --------------.

(a) linear (b) non-linear (c) composite (d) hierarchical

1. Which of the following is a character encoding system?

(a) FontTab (b) HTML (c) CSS (d) Unicode

1. Which of the following provides a system for dynamically displaying a font?

(a) Apache (b) PostScript (c) HTTPD (d) serif

1. VR stands for:

(a) virtual reality (b) visual response (c) video raster (d) variable rate

1. A 16-bit image is capable of representing how many different colors?

(a) 16 (b) 256 (c) 65,536 (d) 16,772,216

10. --------------- supports characters for all known languages.

A. ASCII B. Extended Character set C. CSS D. Unicode