VOCATIONAL DIPLOMA EXAMINATION – JUNE 2019.

MULTIMEDIA SYSTEMS

Time : 3 hours   Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1.   Discuss the various multimedia application?

2.   Why is data compression necessary for multimedia?

3.   List the various Video display systems?

4.   Enumerate Cache Management?

5.   Discuss about the salient feature about virual Reality Design?

6.   List the different types of compression?

7.   What are the traditional Input devices?

8.   Discuss the disadvantage and advantage of Pen Input.

PART B — (5 × 10 = 50 marks)

Answer any FIVE questions.

Question No.9 and 10 are compulsory

9.   (a)   A multimedia file

(i)   is same as any other regular file

(ii)   must be accessed at specific rate

(iii)   stored on remote server can not be
delivered to its client

(iv)   none of the mentioned

(b)   Which   one   of   the   following   is   the
characteristic of a multimedia system?

(i)   high storage

(ii)   high data rates

(iii)   both high storage and high data rates

(iv)   none of the mentioned

(c)   Which one of the following resource is not necessarily required on a file server?

   (i)   secondary storage

   (ii)   processor

   (iii) network

   (iv)   monitor

(d)   The major difference between a multimedia file and a regular file is:

   (i)   the size

   (ii)   the attributes

   (iii) the ownership

   (iv)   the rate at which the file must be accessed

(e)   Video is represented as a series of images formally known as:

   (i)   pics

   (ii)   shots

   (iii) frames

   (iv)   frames

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(f) Multimedia files stored on a remote server are delivered to a client across the network using a technique known as:

   (i) download

   (ii) streaming

   (iii) flowing

   (iv) leaking

(g) Once a file is compressed:

   (i) it has a better quality

   (ii) it takes up less space for storage

   (iii) it cannot be delivered to the client more quickly

   (iv) none of the mentioned

(h) The full form of MPEG is:

   (i) Motion Pictures Engineering Group

   (ii) Motion Picture Engineers Group

   (iii) Motion Picture Experts Group

   (iv) None of the mentioned

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(i) RAID level 3 supports a lower number of I/Os per second, because ————

    (i) Every disk has to participate in every I/O request

    (ii) Only one disk participates per I/O request

    (iii) I/O cycle consumes a lot of CPU time

    (iv) All of the mentioned

(j) Compression ratio is the ratio of:

    (i) the original file size to the size of the compressed file

    (ii) the number of pixels in a frame of the original size to those in a frame of the compressed file

    (iii) compressed file size to the original file size

    (iv) none of the mentioned

10. State True or False

(a) A monitor is a high level synchronization construct

(b) there are three types of video compression

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(c)   JPEG image files are a Lossy format

(d)   Creating a 3D Animation is a 3 step process

(e)   GIF files create perfect reproduction of original images

(f)   GIF means Graphic Information Format

(g)   blend two or more images to form a new image is morphing

(h)   It conversion analog waves into digital format is called sound forge

(i)   <225 color depth results in the images looks murky

(j)   Mixing means combing several streams of traffic into one stream.

11.   Explain the various objects of Multimedia Systems?

12.   Briefly explain the image and video compression and also list the various format?

13.   Elaborate on Video images and animation?

14. Brief about

    (a) RAID

    (b) Juke Box

15. Discuss in detail about Hypermedia Linking and Embedding?

16. What two levels of functionality are to be considered when multimedia systems are to be designed? Briefly define these levels.

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VOCATIONAL DIPLOMA EXAMINATION – JUNE 2019.

COMPUTER GRAPHICS

Time : 3 hours　　　　　　　　Maximum marks : 75

PART A — (5 × 5 = 25 marks)

Answer any FIVE questions.

1. Explain about different circle drawing algorithms.

2. Differentiate parallel and perspective projections and derive their projection matrices.

3. Give the introduction of rendering techniques for generating an image from 2D models.

4. Demonstrate any three types of 3D rotation with equation and with sample diagram.

5. Discuss the following color models with suitable diagram and equation: RGB, HSV and YIQ.

6. Explain how to create a morphing effect in computer graphics with suitable diagram and equation.

7. Describe the functionalities of Refresh cathode ray?

8. List out input devices that are used in graphics field.

PART B — (5 × 10 = 50 marks)

Answer any FIVE Questions.

Questions No.9 and 10 are compulsory.

9. (a) ————————stores the picture information as a charge distribution behind the phosphor-coated screen

    (i)   Cathode ray tube

    (ii) Direct-view storage tube

    (iii) Flat panel displays

    (iv) 3D viewing device

    (b) Heat supplied to the cathode by directing a current through a coil of wire is called.

    (i)   Electron gun

    (ii) Electron beam

    (iii) Filament

    (iv) Anode and cathode

(c) High quality raster graphics system have _____ bits per pixal in the frame.

(i) 20   (ii) 22

(iii) 24   (iv) 26

(d) The process of digitizing a given picture definition into a set of pixel-intensity for storage in the frame buffer is called.

(i) Rasterization

(ii) Encoding

(iii) Scan conversion

(iv) True color system

(e) What is the use of homogeneous coordinates and matrix representation?

(i) To treat all 3 transformations in a consistent way.

(ii) To scale

(iii) To rotate

(iv) To shear the object

(f) For 2D transformation the value of third coordinate i.e. w=?

(i) 1   (ii) 0

(iii) −1   (iv) Any value

(g) Drawing of number of copies of the same image in rows and columns across the interface window so that they cover the entire window is called ——————

(i) Roaming

(ii) Panning

(iii) Zooming

(iv) Tiling

(h) Color information can be stored in

(i) Main memory

(ii) Secondary memory

(iii) Graphics card

(iv) Frame buffer

(i) What is the primary use of clipping in computer graphics?

(i) Adding graphics

(ii) Removing objects and lines

(iii) Zooming

(iv) Copying

(j) How many methods of text clipping are there?

(i) 5   (ii) 4

(iii) 3   (iv) 2

10. State True or False :

   (a) The process of mapping a world window in World Coordinates to the viewport is called Viewing transformation.

   (b) Panning is a techniques in which users can change the size of the area to be viewed in order to see more detail or less detail.

   (c) A polygon can be clipped using clipping operations.

   (d) We can change the size or resize the bitmap image.

   (e) Isometric joystick are also called pressure sensitive joystick.

   (f) Digitizers is a common device for drawing, painting, or interactivity selecting coordinate positions on a object.

   (g) The number of color choices available depends on colors in frame buffer.

   (h) Microphone is designed to minimize the background sound.

   (i) The quality of a picture obtained from a device depends on Dot size

   (j) Impact printers is an input device.

11. What are the applications of Computer Graphics? Explain with suitable examples.

12. Give the syntax of drawing a line in computer graphics using various algorithms.

13. Determine the blending functions for cubic (n=3) Bezier curve and also list out the properties of the Bezier curve.

14. What is Raster Scan Systems? Explain its working with examples?

15. Explain reflection and Rotation transformation for 3D Transformation?

16. Explain parametric and nonparametric representation.

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