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SLIATE

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide In Act No. 29 of 1995)

Higher National Diploma in Information Technology

First Year, 2nd Semester Examination - 2013

IT 2002 – Graphics & Multimedia (New)

Instructions for Candidates:

Answer 05 questions only

All questions carry equal marks

Time : Three (03) hours

No of pages : 05

No of questions : 08

(1).

- i. "Multimedia" means multiple media. List 4 media types included in multimedia. (04 marks)
- ii. What is meant by "interactive multimedia" (02 marks)
- iii. Give two (2) examples for interactive multimedia (02 marks)
- iv. Mention four (4) things you need, to create multimedia applications. (04 marks)
- v. Briefly explain the purpose of using an "Authoring tool" in a multimedia project? (04 marks)
- vi. Give three (3) examples for multimedia authoring tools (04 marks)

(Total 20 marks)

(2).

- i. Define the term "Raster graphic".
(02 marks)
- ii. What are the advantages of using raster graphics in multimedia applications? Mention three(3)
(03 marks)
- iii. Briefly explain the relationship between the resolutions, quality and file size of a raster graphic.
(03 marks)
- iv. Mention (2) uses of raster graphics.
(04 marks)
- v. State (2) disadvantages of vector graphics, in developing multimedia applications.
(04 marks)
- vi. "Vector graphic is the use of geometrical primitives to represent images in computer graphics". Name those geometrical primitives.
(04 marks)

(Total 20 marks)

(3).

- i.
 - a. Define the following terms
 - b. Animation
 - c. Key-frame
 - d. Morphing
 - e. Storyboard
(08 marks)
- ii. Briefly explain the difference between "Cell animation" and "Parametric animation".
(04 marks)
- iii. List two (2) advantages of parametric animation over cell animation.
(02 marks)
- iv. Some of the principles to be used in creating animations are given below. Explain three (3) of them.
(06 marks)
Squash and stretch, Anticipation, Follow through and overlapping action, Slow in and slow out, Secondary action, Timing, Exaggeration

(Total 20 marks)

(4).

- i. Define the following terms regarding a sound wave.
 - a. Wave length
 - b. Frequency
 - c. Bandwidth
 - d. Amplitude

(08 marks)
 - ii. List two (2) advantages of audio file compression.

(02 marks)
 - iii. Digital audio files could be found in different formats. List 4 of them.

(04 marks)
 - iv. What does MIDI stand for?

(02 mark)
 - v. Briefly explain the difference between MIDI file and other types of audio files.

(04 marks)
- (Total 20 marks)**

(5).

- i. What is the difference between "animation" and "video"?

(04 marks)
- ii. Define the term "frame rate" regarding a video file.

(02 marks)
- iii. List four (4) advantages of digital video over analog video.

(04 marks)
- iv. State two (2) broadcast standards available for analog video.

(02 marks)
- v. List four (4) factors affecting on the size of a digital video file

(04 marks)
- vi. Loss less compression methods are not very popular in video compression. Briefly explain the reason for this.

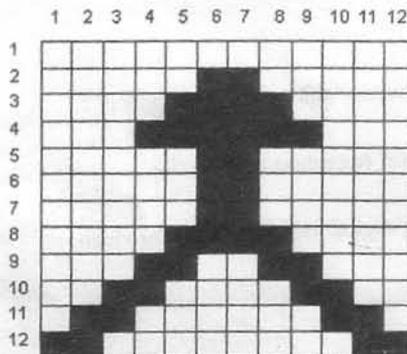
(02 marks)
- vii. Mention two (2) lossy compression methods used for digital video files

(02 marks)

(Total 20 marks)

(6).

- i. Size of a bitmap image file depends on both resolution and bit depth. What is meant by "Bit depth"? (04 marks)
- ii. Explain the difference between two (02) types of compression methods "Lossy-compression" and "Lossless compression" for graphic files. (04 marks)
- iii. Run length encoding is one of the encoding methods for bit maps. State 2 other encoding methods. (02 marks)
- iv. Briefly explain run length encoding. (04 marks)
- vi. Encode the following image using run length encoding method using "0" for white and "1" for black (06 marks)



(Total 20 marks)

(7).

- i. List two (2) drawbacks of delivering a multimedia application without testing. (02 marks)
- ii. Briefly explain the following tests regarding a multimedia project.
 - a. Alpha testing (03 marks)
 - b. Beta testing (03 marks)
- iii. What is meant by "file archive"? (04 marks)
- iv. List four (4) advantages of using file archives in delivering multimedia applications (04 marks)
- v. State two (2) advantages and two (2) disadvantages of delivering multimedia applications in CD ROMs (04 marks)

(Total 20 marks)

(8).

- i. What is the purpose of using multimedia software tools? (02 marks)
- ii. List three (3) multimedia software tools and mention the purpose of each tool you listed. (06 marks)
- iii. Write short notes on the following (12 marks)
 - a. Codec
 - b. AVI
 - c. JPEG
 - d. GIF
 - e. TIFF
 - f. MP3

(Total 20 marks)