



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, Second Semester Examination – 2015

IT2002/HNDIT1210 – Graphics and Multimedia

Instructions for Candidates:

Answer five questions.

All question carry equal marks

Question number 04 part A for candidates registered in 2015
academic year and part B for other candidate

No. of questions: 06

No. of pages : 04

Time : 03 hrs.

Question 01

[Total Marks 20]

- (i.) Define the term multimedia. [02 Marks]
- (ii.) Give four building blocks of Multimedia Application. [02 Marks]
- (iii.) Briefly explain followings. [08 Marks]
 - a. Integration
 - b. Interactive
 - c. Hypermedia
 - d. Hypertext
- (iv.) Give four Characteristics of Multimedia System [04 Marks]
- (v.) Briefly explain the usefulness of multimedia in business application [04 Marks]

Question 02

[Total Marks 20]

- (i.) What is meant by computer graphic and give two examples [04 marks]
- (ii.) Write two usages of vector image [04 marks]
- (iii.) Write three Advantages of vector graphics over the raster graphics [03 marks]
- (iv.)
 - a. “Compressing bitmap images is more important than compressing vector images.” Do you agree with this statement? Explain the reason for your answer. [03 Marks]
 - b. Size of a bitmap image is expressed in bytes. This value depends on two factors. What are they? [04 Marks]
 - c. Mention two advantages of compressing image files before uploading to a web page. [02 Marks]

Question 03**[Total Marks 20]**

(i) What is Audio? [04 Marks]

(ii) Explain term “Digitization“ [03 Marks]

A stereo song has to be recorded at CD quality (Settings for CD quality are: Sampling frequency = 44100 Hz (44.1 KHz) and Sampling depth = 16 bit). The song is 4 minutes and 8 seconds long. How much disk space would the captured song occupy? [hint: File size (bits) = sampling frequency (Hz) x sampling depth (bits) x length of sound (s) x channels] [03 Marks]

(iii) What is the difference between MIDI file and digital audio file [04 Marks]

(iv) Briefly explain the following file formats. For each format mention its uses.

a. JPEG

b. GIF

[03X2= 06 Marks]

Question 04**[Total Marks 20]**

(i)

Part A

a. What is the difference between primary color and secondary color? [03 Marks]

b. Mention the primary colors in subtractive color theory. [04 Marks]

c. Mention two places where additive color theory is used. [02 Marks]

d. What is the color depth of a “full color“ image? [01 Marks]

Part B

a. What is “Animation“? [04 Marks]

b. Briefly explain any three of following animation techniques [06 Marks]

a. Squash and stretch

b. Anticipation

c. Follow through and overlapping action

d. Slow in and slow out

e. Exaggeration

- (ii) Briefly explain the followings
- a. Cell animation [02 Marks]
 - b. Parametric animation [03 Marks]
 - c. Motion capture animation [03 Marks]
- (iii) What is storyboard layout? [02 Marks]

Question 05

[Total Marks 20]

- 1) What is image file compression? Why is it important in present era? [04 Marks]
- 2) Write the names of compression types with relevant algorithms. [04 Marks]
- 3) State one (01) human eye characteristic which is used with color space compression? [02 Marks]
- 4) The following binary image is encoded using run length coding in row by row, with “0” represents white, and “1” represents black. Decode the image and draw it.

Row 1: “0” , 16
 Row 2: “0” , 5, 6, 5
 Row 3: “0” , 3, 10, 3
 Row 4: “0” , 3, 10, 3
 Row 5: “0” , 3, 1, 8, 1, 3
 Row 6: “0” , 3, 1, 8, 1, 3
 Row 7: “0” , 3, 1, 2, 4, 2, 1, 3
 Row 8: “0” , 3, 1, 2, 4, 2, 1, 3
 Row 9: “0” , 3, 1, 2, 4, 2, 1, 3
 Row 10: “0” , 3, 1, 2, 4, 2, 1, 3
 Row 11: “0” , 3, 1, 2, 4, 2, 1, 3
 Row 12: “0” , 3, 1, 2, 4, 2, 1, 3
 Row 13: “0” , 3, 10, 3
 Row 14: “0” , 3, 10, 3
 Row 15: “0” , 2, 12, 2
 Row 16: “0” , 1, 14, 1

[10 Marks]

Question 06

[Total Marks 20]

- a) What are the available methods for Multimedia Delivery? [02 Marks]
- b) Give two (2) testing methods used before the multimedia delivery. Briefly explain it [08 Marks]
- c) What are the factors you have to consider when you are creating and delivering the multimedia [04 Marks]
- d) Only answer part (a) or part (b)**
 - a. Give three categories of typeface with one application for each. [06 Marks]
 - b. Briefly explain three video broadcasting standards [06 Marks]