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
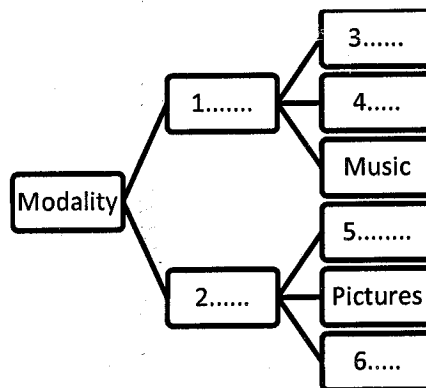First Year, Second Semester Examination – 2016
IT 2002 /HNDIT1210 - Graphic and Multimedia

Instructions for Candidates:	
Answer any five questions	No. of questions : 06
All questions carry equal marks	No. of pages : Four pages
	Time : Three (03) hours

Q1.

i. Why we use multimedia, write four (04) reasons (04 marks)

ii. Write the peoples' remembering levels with percentages based on Edger Dale (04 marks)

iii. Based on several multimedia elements we regularly use two modalities. Fill in the blanks in the chart given below regarding modalities (1 to 6) (06 marks)

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                           ┌─────────┐
                           │ 3...... │
              ┌────────┐───┼─────────┤
              │ 1....... │  │ 4..... │
              └────────┘───┼─────────┤
                           │ Music   │
   ┌──────────┐            └─────────┘
   │ Modality │
   └──────────┘            ┌─────────┐
              ┌────────┐───│ 5...... │
              │ 2...... │──┼─────────┤
              └────────┘   │ Pictures│
                           ├─────────┤
                           │ 6..... │
                           └─────────┘
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iv. Kamal is a HNDIT 2nd year student. He wants to create a video about his course. He is including about his ATI, facilities and course details. After, creating this short film he uploads it in YouTube also.
Write six (06) components (things) he needs to complete this short film.
(06 marks)
(Total Marks 20)

Q2.

i. Graphics is not only to make pretty pictures and funny movies. Write three (03) reasons, to study graphics. (03 marks)

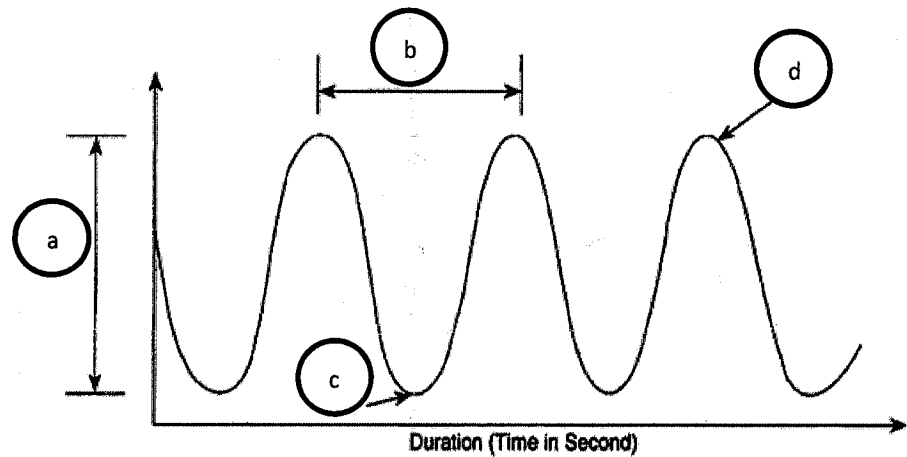ii. Write three (03) examples of computer graphic applications. (03 marks)

iii. Explain the terminologies "raster images" and "vector images"

(04 marks)

iv. Write reasons to convert raster images into vector images   (04 marks)

v. Draw raster and vector data structure for following sample objects   (06 marks)

	Raster	Vector
A point		
A line		
A Triangle (or any polygon)		

(Total Marks 20)

Q3.

i. Name "a" to "d" in sound wave shown below   (04 marks)

Duration (Time in Second)

ii. Draw and explain the digitization process   (04 marks)

iii. The 3 minute and 20 second stereo song has to be recorded in CD quality
(Sampling frequency = 44100Hz (44.1 KHz) and sampling depth: 16 bit). How
much disk space is utilized by song?
*[Hint: file size (bits) = sampling frequency (Hz) x sampling depth (bits) x length of
sound(s) x channels]*   (04 marks)

iv. What are the main requirements of making MIDI audio?   (04 marks)

v. Silva is creating multimedia project and he is going to include sounds in his
project. He includes both content sounds and ambient sounds in his project.
Briefly explain the above-mentioned sound types.   (04 marks)

(Total Marks 20)

Q4.

i. What is the difference between "Animation" and "Video"?   (04 marks)

ii. Two (02) families of digital video camcorders are "Professional" and "Personal"
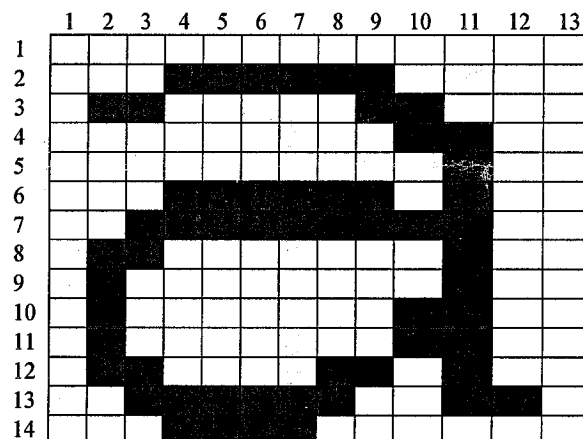write two characteristics of each family   (04 marks)

iii.   Briefly explain three(03) animation principles   (06 marks)

iv.   In general, an animation sequence is designed with three main steps. They are;

    a. Story board layout

    b. Specification of key-frames

    c. Generation of in between key-frames

Briefly explain the above mentioned three steps   (06 marks)

(Total Marks 20)
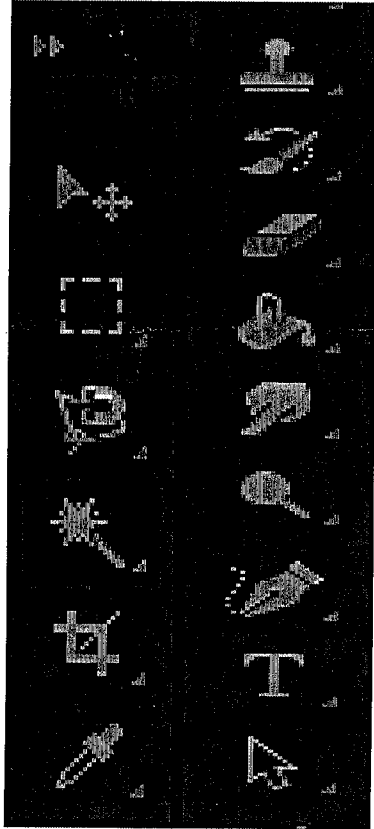
Q5.

i.   What are the two (02) main types of image file compression?   (02 marks)

ii.   Expand the following abbreviations   (04 marks)

    a. TIFF   c. PICT

    b. GIF   d. JPEG

iii.   Briefly Explain about color space compression   (04 marks)

iv.   Encode the following image using run length method using "0" for white and "1" for black   (10 marks)

(Total Marks 20)

Q6.

i.   Write three (03) things that we should ensure when delivering a multimedia project

    (03 marks)

ii.   Write three (03) advantages of using a file archives   (03 marks)

iii.   What is the main difference between 'key frame' and 'frames' in Flash?

    (04 marks)

iv.   Flash can create two types of tweened animation: "motion tweens" and "shape tweens". Briefly explain the term 'Tweening'?   (04 marks)

v.   The below picture contains a set of Photoshop tools. State the name and functions of three of them.   (06 marks)

(Total marks 20)