STIV 2043

FINAL EXAM
FIRST SEMESTER SESSION 2011/2012

COURSE CODE / NAME : STIV2043 / DIGITAL AUDIO TECHNOLOGY
DATE : 31 DECEMBER 2011 (SATURDAY)
TIME : 9.00 AM – 11.30 AM (2 ½ HOURS)
VENUE : DSB K. MAS, KTB

INSTRUCTION :

1. This question booklet contains SEVEN (7) pages excluding this cover page. You need to answer ALL questions.
2. This question booklet has TWO SECTIONS. There are NINETEEN (19) structured questions in SECTION A and FOUR (4) essay questions in SECTION B.
3. Answers for SECTION A must be written on the space provided.
4. Answers for SECTION B must be written in the answer booklet provided.
5. You are NOT ALLOWED to bring this paper question out of exam hall.

MATRIC NO : ________________________ (in word) ________________________ (in number)
IDENTIFICATION CARD NO. :

LECTURER :

GROUP : TABLE NO. :

DO NOT OPEN THIS EXAMINATION PAPER UNTIL INSTRUCTED

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SECTION A: STRUCTURED QUESTIONS (60 MARKS)

1. Name **FIVE (5)** components that make up a sound wave. (5 marks)

2. Define sampling rate. (1 mark)

3. Give **FOUR (4)** standard sampling rate. (4 marks)

4. List down **FIVE (5)** groups of microphones. (4 marks)
5. Identify the types of speaker driver based on the following description.
   
a) The biggest drivers and are designed to produce low frequency sounds.  
   (1 mark)

b) Much smaller units, designed to produce the highest frequencies.  
   (1 mark)

c) Speakers produce a range of frequencies in the middle of the sound spectrum.  
   (1 mark)

6. Identify the types of microphone according to the following statements.
   
a) The challenge in operating this type of microphone is to maintain aural perspective while simultaneously keeping it out of the picture and the performers in the microphone's pick up pattern.  
   (1 mark)

b) The challenge in operating this type of microphone is care must be taken to ensure that it is conspicuous and that it does not pick up the sound of clothes rustle.  
   (1 mark)
7. List down **FIVE (5)** groups of microphones.  

(5 marks)

8. Give **THREE (3)** advantages of MIDI.  

(3 marks)

9. State **TWO (2)** disadvantages of MIDI.  

(2 marks)

10. Provide **FIVE (5)** reasons why producer need a field production.  

(5 marks)

11. What precautions need to be taken when using the following microphone types in a stage production to create the best sound?

   a) **Boom microphone**  

   (2 marks)

   b) **Wireless body microphone**  

   (2 marks)
12. Give **ONE (1)** example of stage production. 

(1 mark)

![Figure 1: A 90-minute DAT cartridge](image)

13. Based on **Figure 1**, provide the specification of Digital Audio Tape:

   a) **Tape Capacity:** __________________________

   b) **Read mechanism:** __________________________

   c) **Write mechanism:** __________________________

   d) **Developed by:** __________________________

   e) **Usage:** __________________________

(5 marks)
14. Based on Figure 2, label the following parts (i-v) with the correct answer. (5 marks)

15. List **FOUR (4)** basic types of DVD. (4 marks)

16. Give a common audio format that is stored in DVD. (1 mark)
17. Provide the function of watermarking. (2 marks)

18. Name ONE (1) security mechanism besides watermarking. (1 mark)

19. State TWO (2) watermark techniques. (2 marks)
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SECTION B : ESSAY QUESTIONS (40 MARKS)

1. Elaborate briefly the sound producing process. (10 marks)

2. Briefly explain the microphone polar pattern and draw the diagram for each type of pattern. (10 marks)

3. Discuss FIVE (5) components of basic sound card and its functions. (10 marks)

4. The following is an e-mail sent by an e-commerce businessman regarding Internet audio. Please reply the following e-mail.

I'm Don Daniyal from Shah Alam, a cyber businessman who had just started to develop an electronic commerce website. I have an idea to develop an audio downloading website. However, there are many things about digital audio that I need to learn. As an expert in digital audio technology, I hope you can help me by explaining the following matters:

a) What is meant by streaming and downloading? (4 marks)

b) Explain briefly TWO (2) problems of using audio on the Internet. (4 marks)

c) What is the advantage of using Liquid Audio? (2 marks)

END OF QUESTION