VICTORIAN CURRICULUM AND ASSESSMENT AUTHORITY

Victorian Certificate of Education 2008

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

									Letter
Figures									
Words									

VCE VET MUSIC INDUSTRY (Technical production)

Aural and written examination

Thursday 13 November 2008

Reading time: 9.00 am to 9.15 am (15 minutes)
Writing time: 9.15 am to 10.45 am (1 hour 30 minutes)

QUESTION AND ANSWER BOOK

Structure of book

Section	*Number of questions*	*Number of questions to be answered*	*Number of marks*
A	9	9	25
B	26	26	75
			Total 100

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is allowed in this examination.

Materials supplied
- Question and answer book of 14 pages.
- Answer **all** questions in the spaces provided.
- An audio compact disc will run continuously throughout Section A of the examination. The audio compact disc will run for 21 minutes.

Instructions
- Write your **student number** in the space provided above on this page.
- You may write at any time during the running of the audio compact disc, and after it stops.
- All written responses must be in English.

Students are NOT permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

SECTION A

Instructions for Section A

The audio CD plays throughout Section A. In **Questions 1–9**, audio excerpts are played twice.
The announcer explains how the audio excerpt(s) for each question will be played.

Question 1

The following piano excerpt has two parts.

Identify the type of signal processing used on the second part of the excerpt.

_____

1 mark

Question 2

Identify which of the following frequencies are being played: 50 Hz, 125 Hz, 500 Hz, 1 kHz, 4 kHz and 8 kHz.

a. _____ **b.** _____ **c.** _____ **d.** _____

4 marks

Question 3

The following instrumental excerpt has two parts. Both parts use the same type of effect on the snare drum.

a. What effect has been used in both parts?

_____

b. Which parameter has been altered between the first and second parts?

_____

c. Describe how the parameter has been altered.

_____

3 marks

Question 4

The following drum excerpt is in two parts.

a. What kind of processing has been applied to the second part of the excerpt?

_____

b. How has this processing affected the dynamic range of the second part of the excerpt?

_____

2 marks

Question 5

The following excerpt is a recording of an acoustic guitar at a live performance through a PA (public address) system.

Identify the problem with the PA system and suggest two solutions.

problem _____

solution 1 _____

solution 2 _____

3 marks

Question 6

The following four song excerpts are in two parts.

Describe how the second part of each excerpt has been modified.

a. _____

b. _____

c. _____

d. _____

4 marks

Question 7

The following electric guitar excerpt is in two parts.

What kind of DAW (digital audio workstation) processing has been applied to the second part of the excerpt?

_____

1 mark

Question 8

a. The following drum excerpt is in two parts.

i. What kind of DAW processing has been applied to the second part?

_____

ii. Describe how the pitch of the second part has changed.

_____

b. The following vocal excerpt is in two parts.

i. What kind of DAW processing has been applied to the second part?

_____

ii. Describe how the length of the second part has changed.

_____

c. The following instrumental excerpt is in two parts.
What kind of DAW processing has been applied to the second part?

_____

2 + 2 + 1 = 5 marks

Question 9

The following song excerpt is in two parts.
Identify the problem with the second part and suggest a solution to prevent the problem occurring.

problem _____

solution _____

2 marks

Total 25 marks

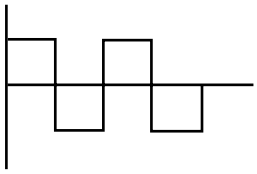
END OF SECTION A

SECTION B

Question 1

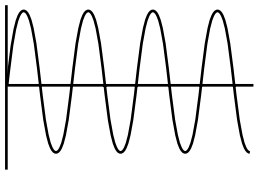
Name the following waveforms.

i.



_____

ii.

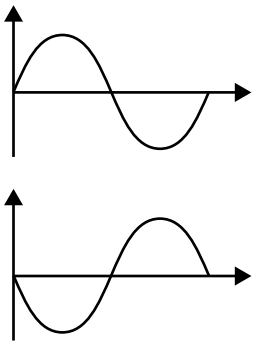


_____

2 marks

Question 2

Describe what audible result would occur if the following two waveforms were combined and explain why.



audible result _____

explanation _____

2 marks

Question 3

The SPL (sound pressure level) is measured at 10 metres from a constant sound source and is found to be 60 dB.

What would the SPL be at 20 metres from the same sound source?

_____

1 mark

Question 4

a. Place a tick in the box next to the instrument that would produce a sound with the longest wavelength.

i. bass guitar ☐

ii. flute ☐

b. What frequency is one octave higher than 440 Hz?

_____

2 marks

Question 5

a. Place a tick in the box next to the digital audio resolution that has the wider dynamic range.

i. 16 bit ☐

ii. 24 bit ☐

b. What is the Nyquist frequency for a sample rate of 48 kHz?

_____

2 marks

Question 6

What is the maximum dynamic range of the following digital audio resolutions?

i. 12 bit

_____

ii. 20 bit

_____

2 marks

Question 7

What does the term 'kbps' stand for?

_____

1 mark

Question 8

How many samples per second are required for CD-quality audio?

_____

1 mark

Question 9

Place a tick in the box next to the digital audio format that uses data compression.

i. 24 bit @ 48 kHz ☐

ii. audio CD ☐

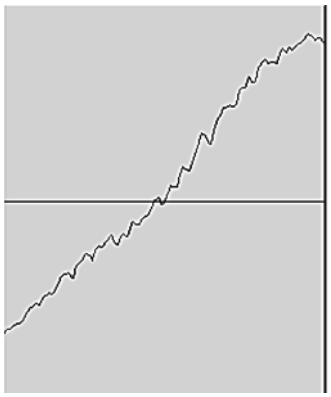
iii. mp3 file ☐

iv. .wav file ☐

1 mark

Question 10

Examine the following diagram.



a. What unwanted audible result might occur at the end of the waveform?

_____

b. Suggest an editing method that would remedy this.

_____

1 + 2 = 3 marks

Question 11

a. Explain the DAW process of 'time compression'.

_____

_____

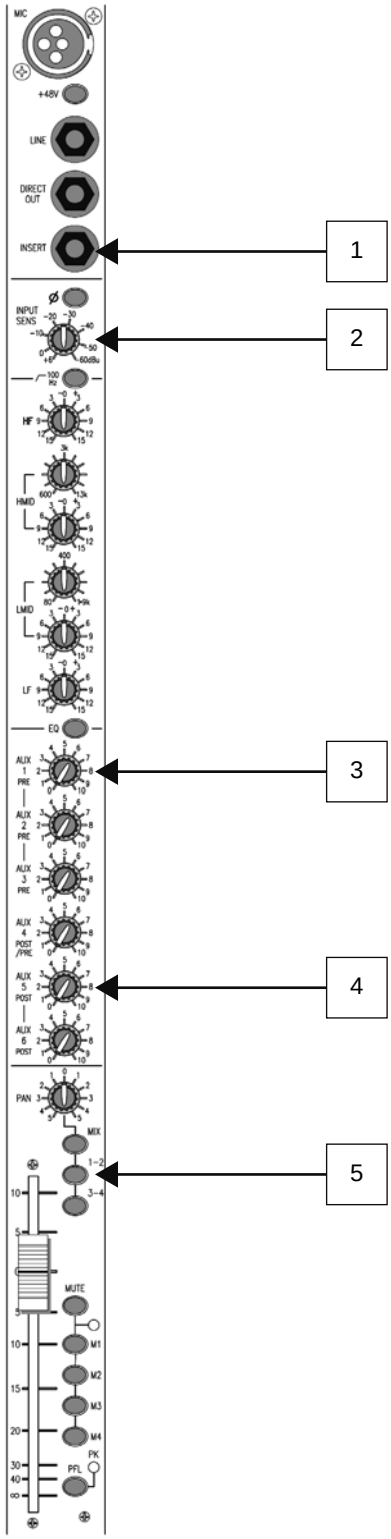
b. Mark is playing a multitrack DAW project from his USB stick.
Why is the audio 'choppy' and why does it not play back smoothly?

_____

2 + 1 = 3 marks

Question 12

Describe the function of, and give a possible application for, each of the controls indicated on the mixing console below.



1. **Insert**

   function _____

   application _____

   _____

2. **Input sens**

   function _____

   application _____

   _____

3. **Aux pre**

   function _____

   application _____

   _____

4. **Aux post**

   function _____

   application _____

   _____

5. **(Assign) 1–2**

   function _____

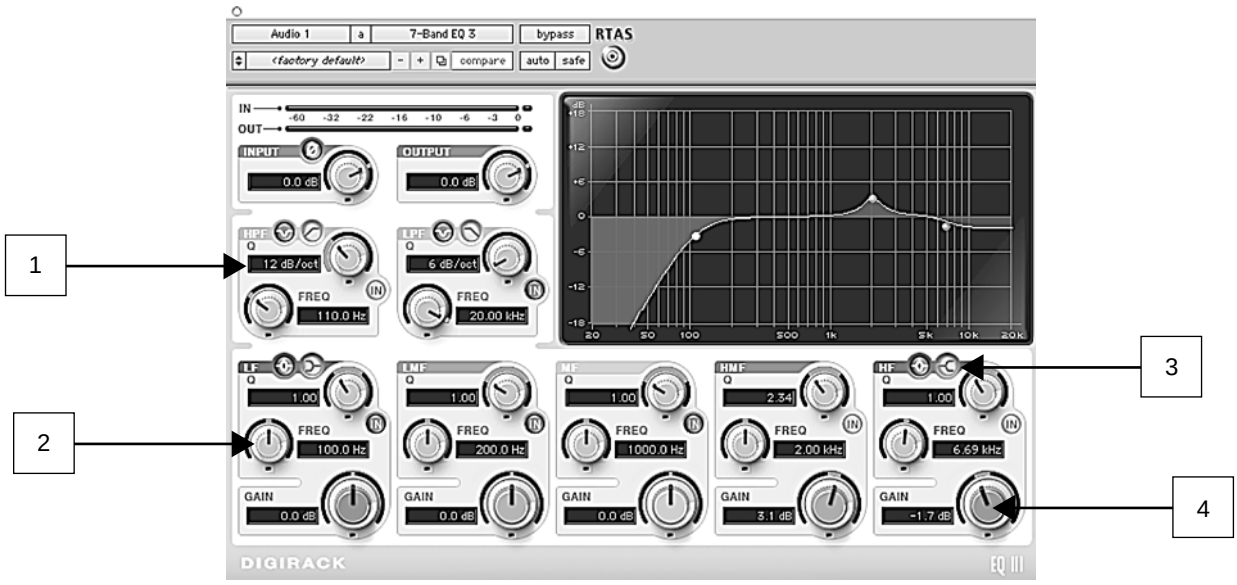
   application _____

   _____

10 marks

Question 13

Describe the function of the controls indicated on this EQ plug-in.



1. HPF _____

_____

2. LF FREQ _____

_____

3.  _____

_____

4. HF GAIN _____

_____

8 marks

Question 14

Place a tick in the box next to the microphone that is likely to have the better high frequency response.

i. small diaphragm condenser microphone ☐

ii. large diaphragm dynamic microphone ☐

1 mark

Question 15

Wendy is making a live recording of a vocalist who is also playing acoustic guitar. She is using one microphone for the vocals and one for the guitar. Both are cardioid pattern microphones. She notices that there is an unacceptable amount of guitar spill in the vocal channel.

Without changing the type of microphone, describe how this problem could be overcome.

_____

_____

2 marks

Question 16

Place a tick in the box next to the cable type that is able to carry phantom power.

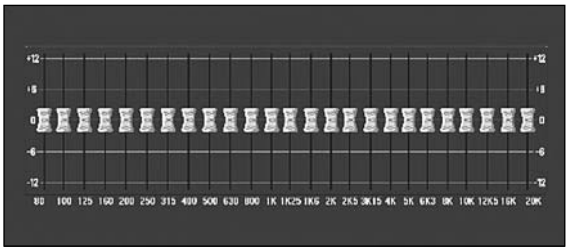
i. balanced cable ☐

ii. unbalanced cable ☐

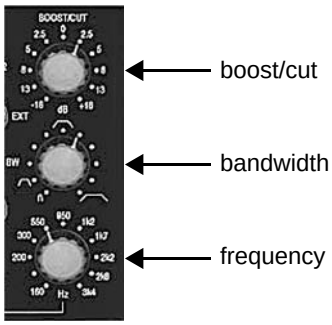
1 mark

Question 17

What kinds of equalisers are shown below?



i. _____ equaliser



ii. _____ equaliser

2 marks

SECTION B – continued

Question 18

Using arrows labelled **A** to **E**, indicate the following on the diagram below.

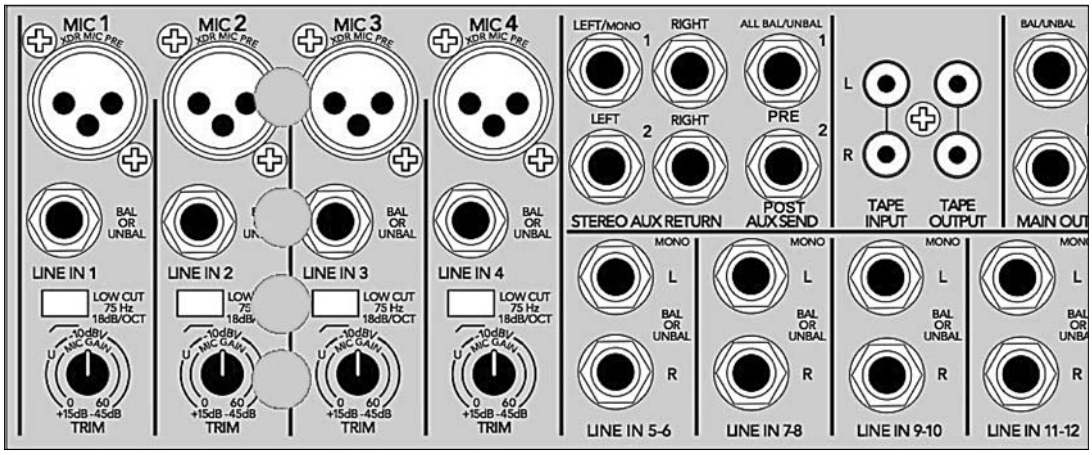
A. – one example of where a microphone would be connected

B. – one example of where a foldback amplifier/speaker would be connected

C. – one example of where the send to a reverb unit would be connected

D. – one example of where the 'front of house' amplifier/speakers would be connected

E. – one example of where a CD player or iPod would be connected

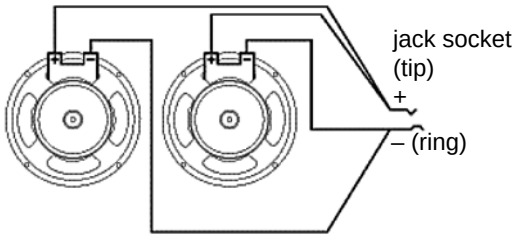


5 marks

Question 19

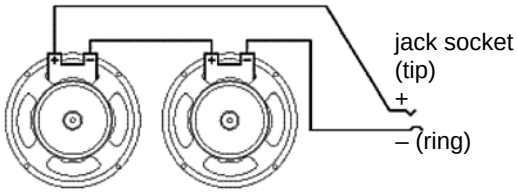
a. In the spaces below, label the following diagrams to indicate if the speakers are wired in series or parallel.

wiring 1



_____

wiring 2



_____

b. If all of the speakers are of 8 Ω impedance, calculate the total impedance.

total impedance wiring 1 _____

total impedance wiring 2 _____

4 marks

Question 20

a. What does S/PDIF stand for?

_____

b. How many channels of audio does a standard S/PDIF cable carry?

_____

2 marks

Question 21

The diagrams below show two different ways to set up a stereo pair of cardioid microphones (placement 1 and placement 2).

In the spaces below, write what each placement is known as.

placement 1

_____

placement 2

_____

2 marks

Question 22

a. What voltage does a standard GPO (general power outlet) provide?

_____

b. What is the maximum current that can be drawn from a standard GPO?

_____

c. What is the maximum power that a standard GPO can provide?

_____

3 marks

Question 23

Juan is exposed to a constant SPL (sound pressure level) of 90 dB over a 10-hour period.

Is this considered safe?

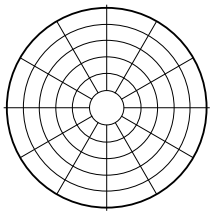
_____

1 mark

Question 24

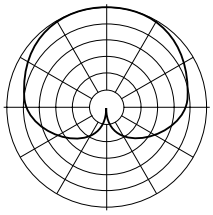
Label the following microphone polar patterns below each diagram. Select from cardioid, omnidirectional, figure 8 or super-cardioid.

i.



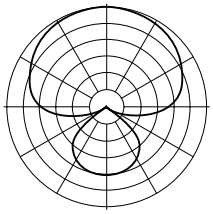
_____

ii.



_____

iii.



_____

3 marks

Question 25

You have been asked to set up a PA for a performer who plays an electric piano. In the spaces below, list the following components in order of signal flow.

speakers, stereo graphic, DI, power amps, mixer and crossover

A. electric piano

B. _____

C. _____

D. _____

E. _____

F. _____

G. _____

5 marks

Question 26

Describe two methods for tuning or equalising a PA system.

method 1 _____

_____

_____

_____

method 2 _____

_____

_____

_____

6 marks

Total 75 marks

END OF QUESTION AND ANSWER BOOK