

STUDENT NUMBER           Letter

**VCE VET MUSIC:  
SOUND PRODUCTION**  
**Aural and written examination**

Friday 11 November 2022

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**

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	8	8	25
B	24	24	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 correction fluid/tape.
- No calculator is allowed in this examination.

**Materials supplied**

- Question and answer book of 17 pages
- An audio compact disc containing musical excerpts for Section A

**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.
- Answer **all** questions in the spaces provided.
- 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 compact disc plays throughout Section A. In **Questions 1–8**, audio excerpts are played twice. The announcer explains how the audio excerpt(s) for each question will be played. Answer **all** questions in the spaces provided.

**Question 1** (5 marks)

The following mix excerpts are of a drum kit, bass guitar, piano and saxophone. The mix excerpts are in two parts. The second part has had an aspect of the mix altered.

- a. Which instrument track has been muted in the second part of Excerpt 1a? 1 mark
- \_\_\_\_\_
- b. Which **two** instruments have been soloed in the second part of Excerpt 1b? 2 marks
- \_\_\_\_\_
- \_\_\_\_\_
- c. What type of effect has been applied in the second part of Excerpt 1c? 1 mark
- \_\_\_\_\_
- d. Which instrument track has been muted in the second part of Excerpt 1d? 1 mark
- \_\_\_\_\_

**Question 2** (2 marks)

The following speech excerpt is in one part. The excerpt contains unwanted sounds.

- a. What is this type of unwanted sound commonly called? 1 mark
- \_\_\_\_\_
- b. What microphone accessory could be used to avoid the unwanted sound? 1 mark
- \_\_\_\_\_

**Question 3** (6 marks)

The following mix excerpts are of a bass drum, snare drum, hand claps and synthesiser. The mix excerpts are in two parts. The second part has had an aspect of the mix altered.

- a. What instrument has been removed in the second part of Excerpt 3a? 1 mark  
\_\_\_\_\_
- b. What effect has been applied to the snare drum in the second part of Excerpt 3b? 1 mark  
\_\_\_\_\_
- c. What parameter of the applied effect has been changed in the second part of Excerpt 3c? 1 mark  
\_\_\_\_\_
- d. What effect has been applied to the synthesiser in the second part of Excerpt 3d? 1 mark  
\_\_\_\_\_
- e. What treatment has been applied to the synthesiser in the second part of Excerpt 3e? 1 mark  
\_\_\_\_\_
- f. What treatment has been applied to the synthesiser in the second part of Excerpt 3f? 1 mark  
\_\_\_\_\_

**Question 4** (3 marks)

The following excerpt is of a drum pattern and synth chords. The excerpt is in two parts. A processor has been applied to the synth chords in the second part to create a pulsing effect.

- a. In the second part of the excerpt, what aspect of the synth chord sound changes to create the pulsing effect? 1 mark  
\_\_\_\_\_
- b. Name the type of processor that is creating the pulsing effect in the second part of the excerpt. 1 mark  
\_\_\_\_\_
- c. What component of the drum pattern is being used to automatically trigger the pulsing effect in the second part of the excerpt? 1 mark  
\_\_\_\_\_

**Question 5** (3 marks)

The following excerpts are from a multi-track recording of various instruments. Each excerpt has one part only. An audio process has been switched in and out during each excerpt.

- a. What type of audio process has been used in the electric guitar excerpt? 1 mark

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- b. What type of audio process has been used in the drum kit excerpt? 1 mark

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- c. What type of audio process has been used in the synth strings excerpt? 1 mark

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**Question 6** (2 marks)

The following electric guitar excerpt is in one part. The recording has been edited together using seven different plucked chords. The excerpt contains an issue that can be fixed by editing the electric guitar part in a digital audio workstation (DAW).

- a. What editing issue occurs throughout the excerpt? 1 mark

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- b. Suggest an editing method that would fix the issue identified in **part a**. 1 mark

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**Question 7** (2 marks)

The following excerpt is in one part. The audio contains unwanted radio interference. There is no effect processor being used.

- a. What equipment is the source of the interference? 1 mark

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- b. Give a solution to remove the interference. 1 mark

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**Question 8** (2 marks)

The following excerpt of a drum kit is in two parts. Both parts are of the same performer playing the same rhythm and were recorded at the same time. No effects or signal processing have been used.

- a. Why does the drum kit sound different in the second part? 1 mark

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- b. What is the production purpose of recording the second part? 1 mark

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**END OF SECTION A  
TURN OVER**

**SECTION B****Instructions for Section B**

Answer **all** questions in the spaces provided.

**Question 1** (1 mark)

What is the musical interval between the two frequencies 100 Hz and 200 Hz?

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**Question 2** (1 mark)

What happens to the speed of sound as air cools?

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**Question 3** (1 mark)

Give **one** explanation for why a room full of people can reduce reverberation.

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**Question 4** (1 mark)

Give **one** reason why pencil condenser microphones are rarely used to mic bass drums.

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**Question 5** (1 mark)

Digital clipping sounds different from analogue clipping.

Describe the sound produced by digital clipping.

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**Question 6** (2 marks)

For a 44.1 kHz and 16-bit digital audio file, give

- the maximum dynamic range
- 
- theoretically, the highest frequency that can be reproduced.
- 

**Question 7** (7 marks)

Complete the table below by explaining each of the listed digital audio workstation (DAW) terms.

DAW term	Explanation
rough mix	
comping	
normalise	
punch in	
time compression	
stereo interleaved	
MIDI note velocity	

**Question 8** (2 marks)

A 10-piece band uses a smartphone to make a live audio recording of themselves.

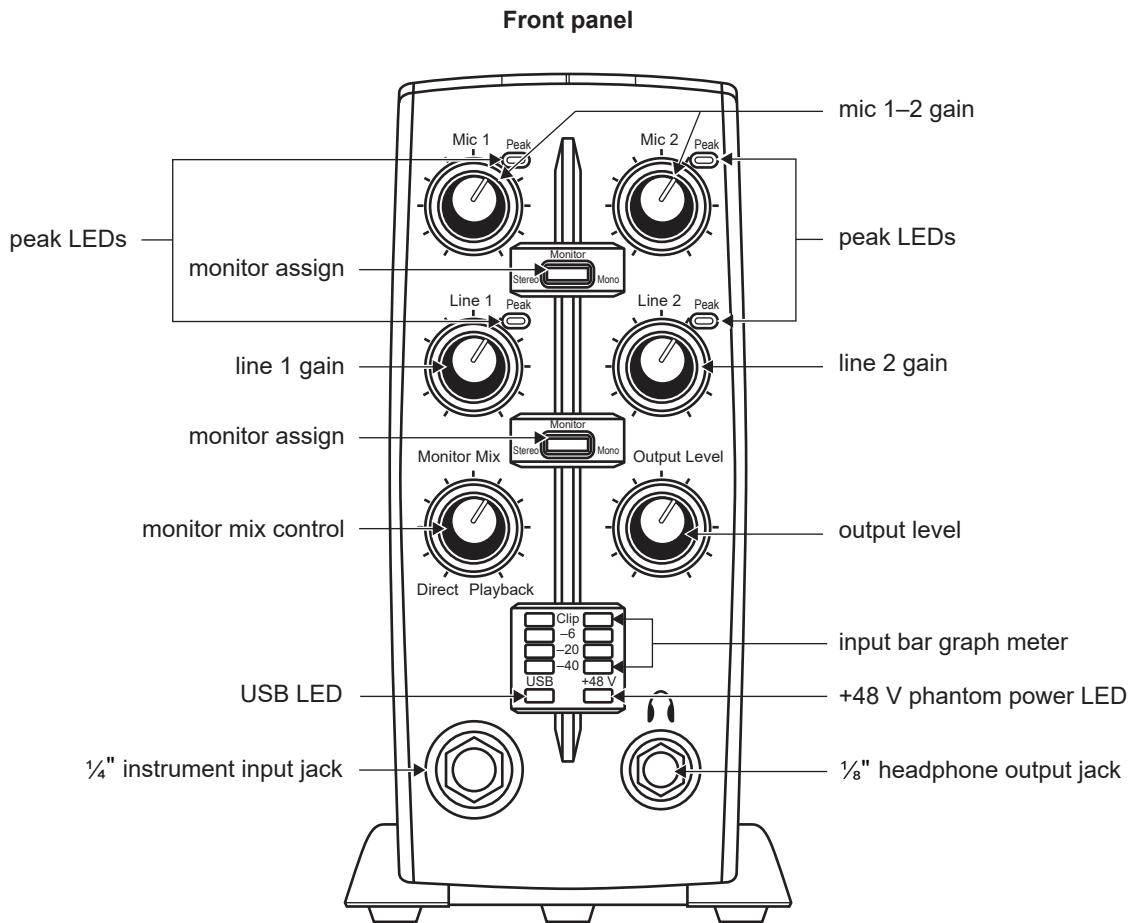
Give two advantages of recording this way compared to using a DAW.

Advantage 1 \_\_\_\_\_

Advantage 2 \_\_\_\_\_

**Question 9** (12 marks)

a. The image below shows the front panel of a typical audio interface.



Source: adapted from Lexicon by Harman, 'Lambda Owner's Manual', 2016, p. 3 <lexiconpro.com>

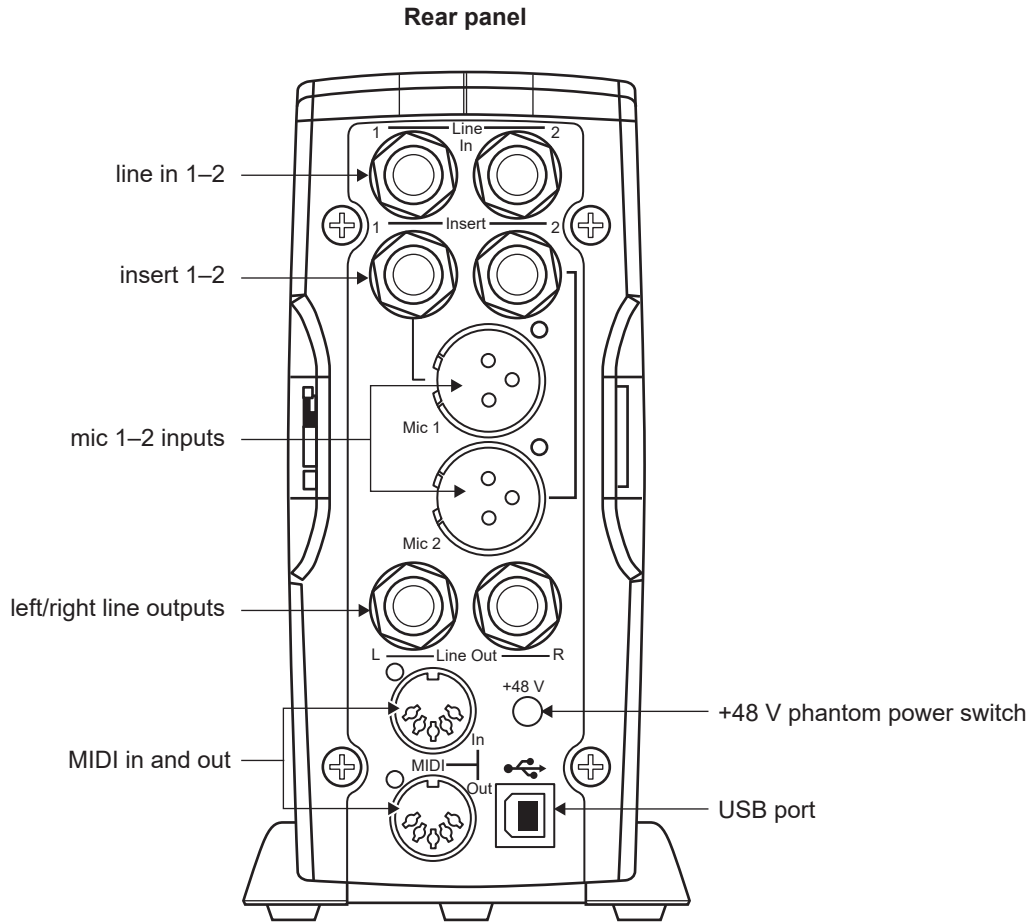
Complete the table below by writing the purpose of each of the listed features from the front panel of the audio interface.

7 marks

Feature	Purpose
mic 1–2 gain	
line 1 gain	
peak LEDs	
monitor mix control (direct/playback)	
output level	
input bar graph meter	
USB LED	



b. The image below shows the rear panel of a typical audio interface.



Source: adapted from Lexicon by Harman, 'Lambda Owner's Manual', 2016, p. 5 <lexiconpro.com>

Complete the table below by writing the purpose of each of the listed features from the rear panel of the audio interface.

5 marks

Feature	Purpose
insert 1-2	
MIDI in	
MIDI out	
+48 V phantom power switch	
line in 1-2	

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**Question 10** (4 marks)

A band is planning a tour of live performances in large venues around the country.

- a. Give two differences between the roles of a tour manager and a stage manager. 2 marks

Difference 1 \_\_\_\_\_

\_\_\_\_\_

Difference 2 \_\_\_\_\_

\_\_\_\_\_

- b. What are two advantages of having separate front-of-house (FoH) and monitor engineers? 2 marks

Advantage 1 \_\_\_\_\_

\_\_\_\_\_

Advantage 2 \_\_\_\_\_

\_\_\_\_\_

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**Question 11** (7 marks)

Four images of live sound cables are shown in the table below.

Complete the table by describing what each cable is used for and naming the connector shown. Do not complete the shaded area.

Cable	Cable use	Connector name
 <p>shielded cable</p>		
		
		
		

**Question 12** (3 marks)

List three safety hazards of playing in a rehearsal room with amplified instruments and a vocal PA system.

Hazard 1 \_\_\_\_\_

Hazard 2 \_\_\_\_\_

Hazard 3 \_\_\_\_\_

**Question 13** (2 marks)

List two tasks a backline technician has at a large live music performance event with multiple bands.

Task 1 \_\_\_\_\_

Task 2 \_\_\_\_\_

**Question 14** (4 marks)

List two advantages and two disadvantages of using wireless in-ear monitors at a live performance.

Advantage 1 \_\_\_\_\_

Advantage 2 \_\_\_\_\_

Disadvantage 1 \_\_\_\_\_

Disadvantage 2 \_\_\_\_\_

**Question 15** (1 mark)

A sound engineer uses a guitar jack-to-jack cable to connect an amplifier output to a passive foldback speaker.

What problem might this cause?

\_\_\_\_\_

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**Question 16** (3 marks)

A sound engineer connects four passive foldback speakers to one channel of a power amplifier.

- a. What problem may occur as a result? 1 mark

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- b. What are **two** ways the sound engineer could avoid the problem identified in **part a.**? 2 marks

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**Question 17** (4 marks)

Give four advantages of digital mixing consoles compared with analogue mixing consoles.

Advantage 1 \_\_\_\_\_

Advantage 2 \_\_\_\_\_

Advantage 3 \_\_\_\_\_

Advantage 4 \_\_\_\_\_

**Question 18** (2 marks)

When engineering a live event, you notice an unwanted low frequency sound coming from the electric bass DI channel. The volume on the bass guitar is turned down.

- a. What can you do to prevent this unwanted sound? 1 mark

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- b. What is this unwanted sound commonly called? 1 mark

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**Question 19** (2 marks)

A live music venue is concerned that sound is spilling into the neighbouring properties.

- a. What frequency band is most likely the cause of this problem? 1 mark

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- b. Explain why this problem happens. 1 mark

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**Question 20** (1 mark)

Name **one** advantage of having a phantom power switch for each mixer input, rather than a global phantom power switch.

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**Question 21** (1 mark)

What is the maximum current available from a general purpose outlet (GPO)?

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**Question 22** (1 mark)

Which type of equipment should be turned on last when powering up a PA system?

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**Question 23** (2 marks)

Give two examples of equipment that could be listed on a band's technical rider.

Example 1 \_\_\_\_\_

Example 2 \_\_\_\_\_

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**SECTION B – continued**  
**TURN OVER**

**Question 24** (10 marks)

An engineer and performers have met and developed a plan to produce a demo recording. There are two sessions available for the songs to be recorded and one session available for mixing the songs. The details of the demo recording plan are given below.

**Demo recording plan**

Four songs are to be recorded and mixed. The songs are to be multi-tracked using a DAW. The final mixes will be uploaded to a website for streaming. The recording and mixing will be done using WAV files at 96 kHz and 24 bits.

Instrumentation consists of drum kit, bass guitar, violin, electronic keyboard and a vocalist.

The following table shows the activities planned for each session. The drummer is not available for session 1.

Instruments	Session 1	Session 2	Session 3
drum kit	no	yes	mixing and backup of all recording files
bass guitar	yes	no	
violin	yes	no	
electronic keyboard	yes	no	
vocalist	yes – guide only	yes – final vocals	

- a. What is the most suitable file format for streaming from a website? 1 mark

\_\_\_\_\_

- b. What is an advantage of using WAV files in 96 kHz and 24-bit format for the recording? 1 mark

\_\_\_\_\_

- c. The drummer is not available for session 1.

What are two problems this could cause and one solution that should solve both problems? 3 marks

Problem 1 \_\_\_\_\_

Problem 2 \_\_\_\_\_

Solution \_\_\_\_\_

- d. What is the benefit of recording the vocal guide track in session 1? 1 mark

\_\_\_\_\_



- e. A floor plan of the control room, studio and isolation booth is shown below.

On the floor plan, use a labelled '×' to indicate the location of each instrument for session 1.

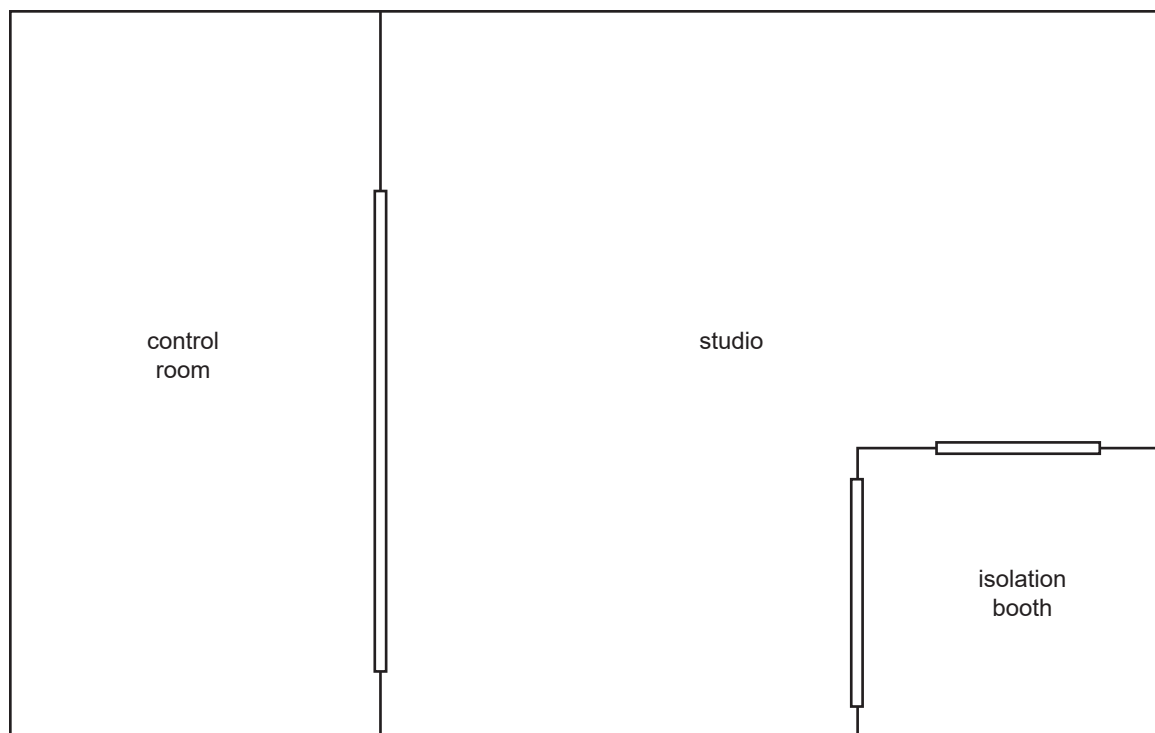
Make sure that:

- audible spill will be minimised in the recording
- performers can make eye contact with each other while playing.

The bass guitar and electronic keyboard will be recorded with DIs.

All instruments are to be tracked live with no overdubs.

2 marks



- f. During the mixing session, each member of the band asks for their instrument to be made louder in the mix.

- i. What issue might this cause at the mix bus?

1 mark

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- ii. Provide a solution for this issue.

1 mark

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