

Victorian Certificate of Education
2018

SUPERVISOR TO ATTACH PROCESSING LABEL HERE

STUDENT NUMBER

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VCE VET MUSIC INDUSTRY:
SOUND PRODUCTION
Aural and written examination

Friday 16 November 2018

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	13	13	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 15 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 1–9**, 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 three mix excerpts are in two parts. The first part of each excerpt is the original mix. The second part of each excerpt is a variation of the original mix.

- a. Which aspect of the mix has changed in the second part of Excerpt 1a? 1 mark
- _____
- b. Which aspect of the mix has changed in the second part of Excerpt 1b? 1 mark
- _____
- c. An effect has been applied to one element of the drum kit in Excerpt 1c. The same effect has been applied in both parts of the excerpt.
- i. To which element of the drum kit has the effect been applied? 1 mark
- _____
- ii. Name the type of effect that has been applied in the excerpt. 1 mark
- _____
- iii. Which parameter has been increased in the second part of the excerpt? 1 mark
- _____

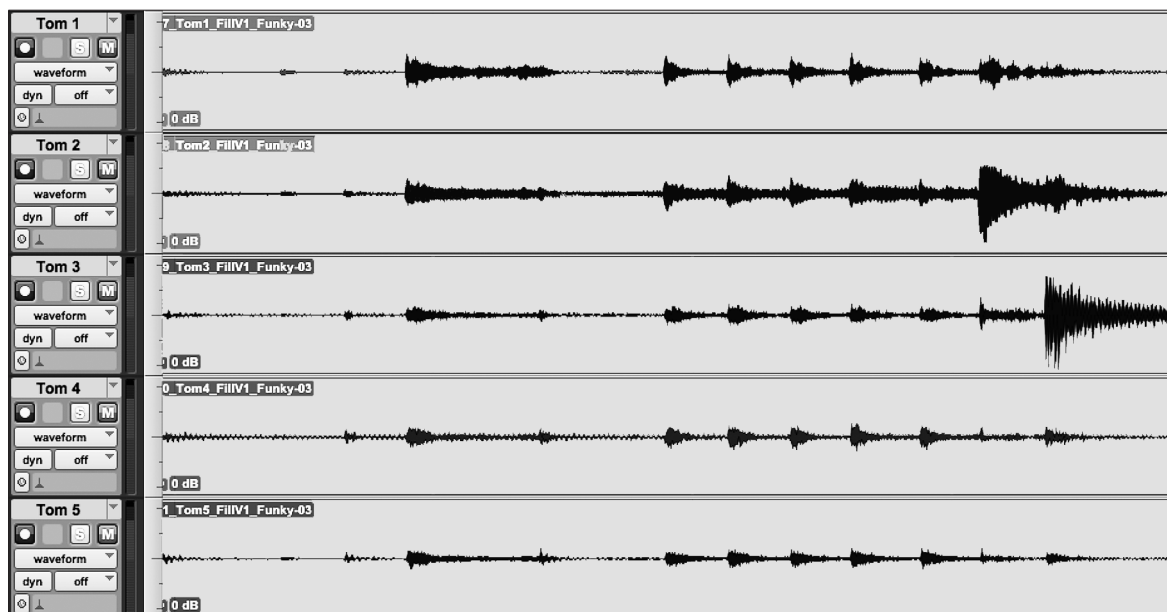
Question 2 (2 marks)

The following drum excerpt is in two parts. Both parts are recordings of the same performance without added effects or processing.

- a. Outline how the sound in the second part of Excerpt 2 differs from the first part. 1 mark
- _____
- b. How can the difference outlined in **part a.** be achieved without effects or processing? 1 mark
- _____

Question 3 (4 marks)

The following tom excerpt is of the waveforms shown in the screenshot below. The excerpt has been looped four times.



- a. Only two toms can be heard in Excerpt 3.

Using the track labels in the screenshot above, identify the tracks where the toms can be heard.

1 mark

- b. What is the common name for the unwanted audio heard from the other tracks?

1 mark

- c. State **two** suitable ways the unwanted audio named in **part b.** could be eliminated.

2 marks

Question 4 (2 marks)

The following excerpt of a PA system lapel microphone line check contains an audible problem. The microphone and the mixing desk are functioning normally.

- a. Identify the audio problem in Excerpt 4.

1 mark

- b. Suggest a solution to resolve this problem.

1 mark

Question 5 (2 marks)

The following vocal excerpt is in two parts. Only the second part has an effect applied.

- a. Name the effect that has been applied in the second part of Excerpt 5. 1 mark

- b. Name the specific aspect of the sound changed by the effect given in **part a**. 1 mark

Question 6 (2 marks)

The following rap excerpt is in two parts. Only the second part has had processing applied.

- a. Name the type of processing that has been applied in the second part of Excerpt 6. 1 mark

- b. How has the type of processing named in **part a**. changed the sound of the second part of the excerpt? 1 mark

Question 7 (1 mark)

The following distorted guitar excerpt is in two parts. Only the second part has had processing applied.

Name the type of processing applied in Excerpt 7.

Question 8 (4 marks)

The following excerpt contains a 1 kHz reference tone followed by a sequence of three tones.

- a. Identify, in order, the frequency of each tone being played after the reference tone. Select from this list: 125 Hz, 250 Hz, 500 Hz, 1 kHz, 2 kHz, 4 kHz, 8 kHz. 3 marks

1. _____

2. _____

3. _____

- b. How could identifying frequencies help an audio engineer when tuning a PA system? 1 mark

Question 9 (3 marks)

The following excerpt is in two parts. Both parts consist of types of noise commonly used in live audio production.

- a.** Name the types of noise in each part of Excerpt 9. 2 marks

First part _____

Second part _____

- b.** Provide an example of when one of the types of noise named in **part a.** may be used during a production set-up. 1 mark

SECTION B**Instructions for Section B**

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

Question 1 (2 marks)

The image below shows a piece of equipment holding a microphone.

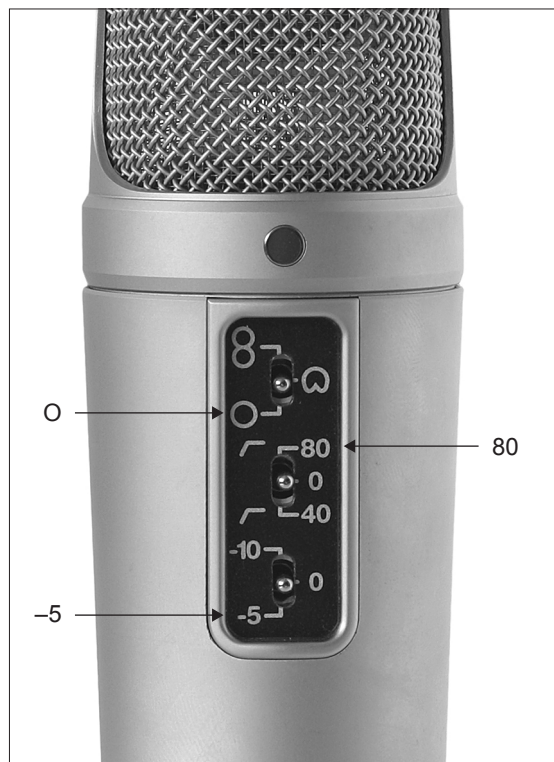


Source: Nadiia Nasaduik/Shutterstock.com

Name the piece of equipment holding the microphone and outline its function.

Question 2 (6 marks)

The image below shows symbols labelled on a multi-pattern, large diaphragm condenser microphone.



Source: JRP Studio/Shutterstock.com

Name the function of each labelled symbol and outline an application for each.

O _____

80 _____

-5 _____

Question 3 (4 marks)

Describe two advantages of using a balanced cable rather than an unbalanced cable.

1. _____

2. _____

Question 4 (4 marks)

The images below show two types of tweeters: a soft dome tweeter and a horn tweeter.



Sources: oTTo-supertramp/Shutterstock.com (left); arogant/Shutterstock.com (right)

- a. With reference to high-frequency dispersion, describe the difference between a soft dome tweeter and a horn tweeter.

2 marks

- b. Which type of tweeter is more likely to be used in a near-field monitor in a studio control room? Justify your response.

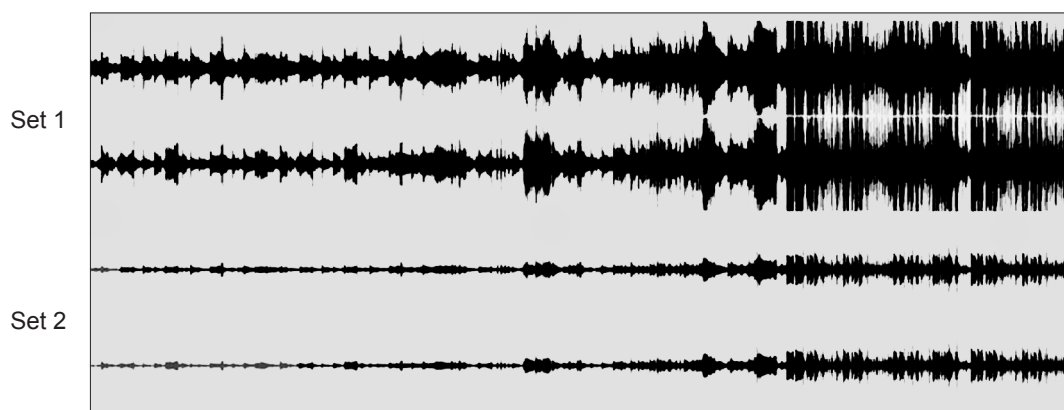
2 marks

Question 5 (6 marks)

- a. Explain the difference between audio compression and data compression. In your response, refer to the audible effects of each type of compression.

4 marks

- b. The screenshot below shows two sets of stereo waveforms. One set is the original and the other set has been processed.



Identify which stereo waveform is likely to have been normalised and outline the audible characteristics of normalisation.

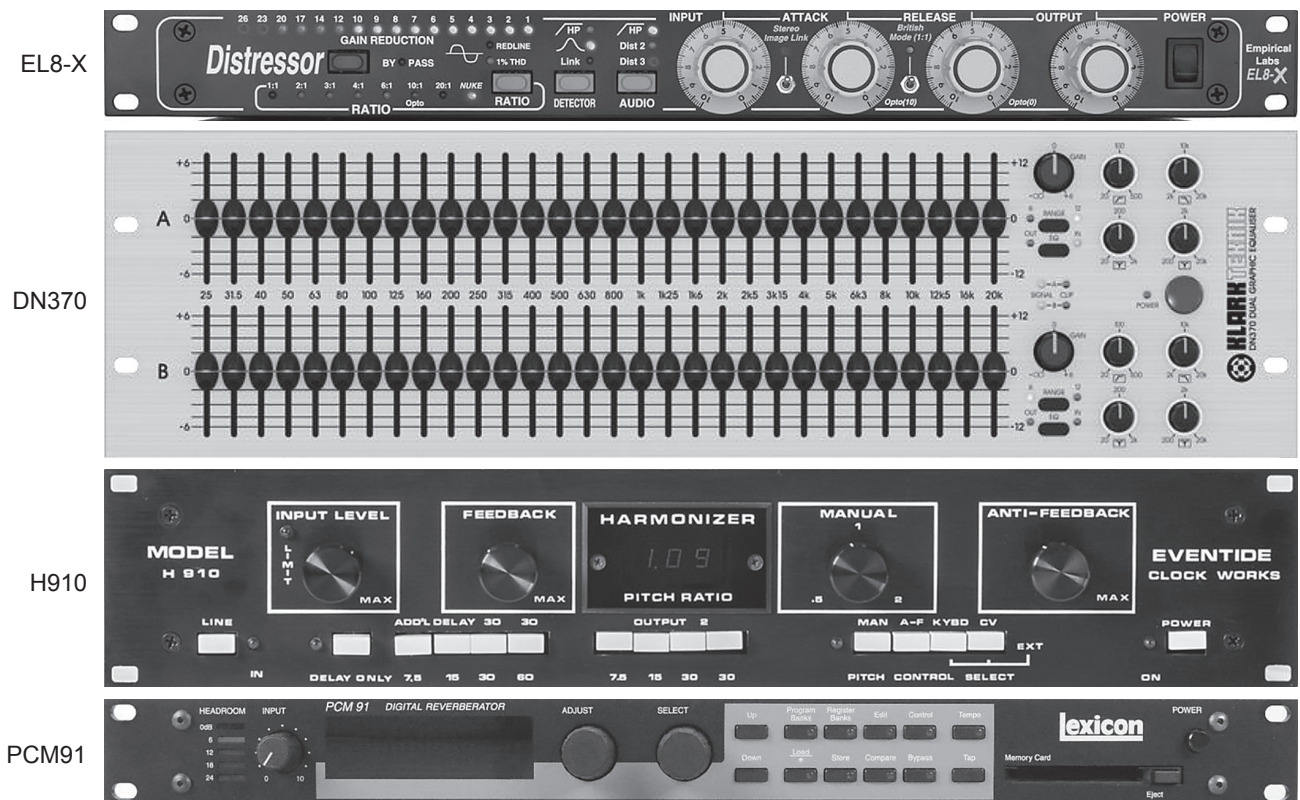
2 marks

Question 6 (3 marks)

Describe what the proximity effect is and how it changes the frequency response of a specific input device. Include the name of the specific input device in your response.

Question 7 (4 marks)

The images below show four types of audio effects processors.



Sources (from top): Empirical Labs, <www.empiricallabs.com>; MUSIC Group, <www.musictri.be>; Eventide, <www.eventideaudio.com>; HARMAN, <<https://lexiconpro.com/en>>

- a. Name the processor shown above that changes the perceived depth of, or space around, a sound. 1 mark
-
- b. Name the processor shown above that changes dynamics when mixing live and describe a vocal issue this processor could correct. 2 marks
-
-
- c. Name the processor shown above that cuts or boosts frequency bands. 1 mark
-

Question 8 (4 marks)

- a. Identify **two** uses of a graphic equaliser while mixing a live performance.

2 marks

- b. During a live music performance, the audio engineer hears a buzzing sound coming through the channel of an instrument while the instrument is not being played.

Describe how a live sound signal processor could be used to resolve this problem. Include the name of the specific processor in your response.

2 marks

Question 9 (4 marks)

An audio engineer has been asked to record and mix material for a band they are unfamiliar with. The engineer must complete a multi-track studio recording within an eight-hour session.

Give two examples of information the audio engineer would need in order to develop a pre-production recording plan. Justify each example.

1.

-
2.

-

Question 10 (8 marks)

An audio engineer has been asked to record and mix an acoustic act that is to perform live in a small studio with all musicians in the same room at the same time. The musicians are:

- a lead vocalist
- a choir
- an acoustic guitarist with pick-up
- a double bass player with no pick-up.

Complete the table below by allocating a microphone or direct input (DI) box to each musician and by justifying your allocation.

Microphone/DI box	Musician(s)	Justification
stereo pair of cardioid small diaphragm condensers		
large diaphragm cardioid dynamic		
handheld cardioid dynamic		
DI box		

Question 11 (4 marks)

Describe the steps involved in minimising feedback frequencies when ‘ringing out’ a front-of-house PA system.

Step 1 _____

Step 2 _____

Step 3 _____

Step 4 _____

Question 12 (2 marks)

- a. Which component of a three-way PA speaker could be damaged by an extremely loud 8 kHz signal? 1 mark

- b. What is the recommended safe sound pressure level (SPL) for eight hours of exposure? 1 mark

Question 13 (24 marks)

An audio engineer has been employed by a music festival organiser to mix four acts that are playing on an outdoor stage on a windy day. Each act is scheduled to perform for 45 minutes and there is a 15-minute break between acts for changeover and line check. Two hours have been allocated for stage set-up and sound check before the event opens to the public.

The acts comprise a:

- solo vocalist using an acoustic guitar with pick-up
- five-piece band with vocalist, electric guitar, electric bass, electric keyboard and drum kit
- DJ using a stereo laptop, who does not speak/sing
- three-piece band with electric guitar, electric bass and vocalist using a drum kit.

The five-piece band has agreed to lend its backline, which includes a guitar amp, bass amp and drum kit, to the other acts. The keyboardist does not require their own amp.

The music festival organiser has provided the following equipment:

- PA system with mixing desk, three foldback monitors and all related cables and power
- two vocal microphones, four instrument microphones, two mono DI boxes and six microphone stands

- a. Which mixing desk function could the audio engineer use to reduce wind noise in the vocal microphones?

1 mark

- b. In the context of this scenario, what is the difference in function between the line check and the sound check?

2 marks

- c. Fill in all the blank boxes to complete the input patch list below. Insert the name of each instrument or a dash (–) if no instrument is required.

10 marks

Mixer channel label	Input type	Acts			
		Solo vocalist	Five-piece band	DJ	Three-piece band
kick	inst. mic	–	drums (kick)	–	drums (kick)
snare	inst. mic	–	drums (snare)	–	drums (snare)
drums OH	inst. mic	–	drums (whole kit)	–	drums (whole kit)
guitar	inst. mic		electric guitar	–	
DI 1	DI	–			–
DI 2	DI				
VOX 1	vocal mic	singer	singer		
VOX 2	vocal mic	–	–	–	singer

- d. Draw a stage plan that can be used by all of the acts with minimal changes between breaks. Your stage plan must clearly show the location of the:

- foldback monitors
- instrument microphones/DIs
- vocal microphones.

11 marks

PA
speaker
L

PA
speaker
R

stage front