

STUDENT NUMBER           Letter

# VCE VET MUSIC TECHNICAL PRODUCTION

## Aural and written examination

Wednesday 2 November 2016

Reading time: 11.45 am to 12.00 noon (15 minutes)

Writing time: 12.00 noon to 1.30 pm (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	6	6	25
B	15	15	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 11 pages.
- An audio compact disc will run continuously throughout Section A of the examination. The audio compact disc will run for 19 minutes 31 seconds.

#### 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 1–6**, audio excerpts are played twice. The announcer explains how the audio excerpt(s) for each question will be played.

**Question 1** (4 marks)

Identify each waveform that is played and suggest how each may be used in audio production.

a. \_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

**Question 2** (3 marks)

Identify which of the following tones are being played after the reference tone of 1 kHz:

125 Hz, 250 Hz, 500 Hz, 2 kHz, 4 kHz, 8 kHz

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

**Question 3** (3 marks)

The following flute excerpt is in two parts.

Due to copyright restrictions,  
this excerpt is not supplied.

a. What signal processing has been used in the excerpt? 1 mark

\_\_\_\_\_

b. What parameter has been changed in the second part? 1 mark

\_\_\_\_\_

c. In what way has the parameter been changed in the second part? 1 mark

\_\_\_\_\_

Due to copyright restrictions,  
this excerpt is not supplied.

**Question 4** (6 marks)

The following excerpts are in two parts. The second part of each excerpt has had an equaliser filter applied.

Name the kind of equaliser filter used in the second part of each excerpt and describe how it alters the sound.

a. \_\_\_\_\_

\_\_\_\_\_

b. \_\_\_\_\_

\_\_\_\_\_

c. \_\_\_\_\_

\_\_\_\_\_

Due to copyright restrictions,  
this excerpt is not supplied.

**Question 5** (3 marks)

The following percussion excerpt is in three parts. The first part has had no effect added. The second and third parts have had the same kind of effect added to them.

a. What effect has been added to the second and third parts? 1 mark

\_\_\_\_\_

b. Identify the parameter that has been changed between the second and third parts. Explain how the parameter has been changed. 2 marks

\_\_\_\_\_

\_\_\_\_\_

**Question 6** (6 marks)

Due to copyright restrictions,  
this excerpt is not supplied.

- a. The following excerpt is in two parts.

Describe the effect that has been added in the second part.

1 mark

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- b. The following excerpt is in two parts.

Describe the aspect of the mix that has been changed in the second part.

1 mark

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- c. The following excerpt is in two parts.

Identify the aspect of the mix that has been changed in the second part and explain why this may have occurred.

2 marks

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- d. The following excerpt is in two parts.

Identify the aspect of the mix that has been changed in the second part and explain how this may have occurred.

2 marks

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## SECTION B

### Question 1 (14 marks)

You need to create a microphone and stand list for a live gig of a five-piece band that includes drums, bass, guitar, keyboard and vocals. You have seven channels available and you have the microphone/DI kit and stand kit listed below:

- microphone/DI kit – 3 × handheld dynamic microphones, 2 × dynamic instrument microphones, 2 × small diaphragm condenser microphones, 1 × large diaphragm dynamic microphone, 2 × DI boxes
- stand kit – 8 × tall boom stands, 4 × short boom stands

a. In the table below, list the type of microphone or DI box to be used for each channel. 7 marks

b. In the table below, list the type of stand best suited to each microphone or DI box. If no stand is needed, write 'no stand'. 7 marks

Channel	Instrument/vocal	Microphone/DI box	Stand
1	kick drum		
2	snare (top)		
3	drum kit (overhead)		
4	bass		
5	guitar amplifier		
6	electric keyboard		
7	vocals		

**Question 2** (5 marks)

- a. You are mixing a live act and there is suddenly no input signal to the mixing desk from the acoustic guitar connected through a DI box.

Suggest **three** equipment checks you could perform to find the reason for this problem. 3 marks

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- b. If the gain settings on the mixing desk are altered during a live show, what are **two** possible undesired effects that could have an impact on the onstage performers? 2 marks

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**Question 3** (2 marks)

- a. When you hire a PA system for a gig, what is the first thing you should do when it is delivered, prior to setting up? 1 mark

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- b. Tick (✓) the correct box.

If a PA system has all of the following pieces of equipment, which one should be turned on last? 1 mark

- mixing desk  
 active DI box  
 powered speakers  
 graphic equaliser  
 reverb unit

**Question 4** (4 marks)

You have been asked by a band to mix their live sound.

Identify **four** checks you could complete when you do a site visit of the venue prior to the gig.

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**Question 5** (3 marks)

a. What is another name for a moving coil microphone? 1 mark

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b. What is another name for a condenser microphone? 1 mark

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c. What might be the undesirable result when you turn on power to a condenser microphone without the channel being muted? 1 mark

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**Question 6** (7 marks)

- a. Why is it not good practice to run audio and lighting cables side by side? 1 mark

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- b. Identify **two** reasons why it is essential that the earth pin is not broken on a 240 V power cable. 2 marks

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- c. i. Complete the table below to show the relationship between different electrical measurement units. 3 marks

Electrical measurement unit	Situation 1	Situation 2
power (watts)	480	
	240	240
current (amps)		10

- ii. Why is understanding the relationship between electrical measurement units important in order to work safely with electricity? 1 mark

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**Question 7** (4 marks)

- a. How many shields are there in a guitar lead? 1 mark

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- b. i. How many cores are there in a balanced microphone lead? 1 mark

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- ii. What number is commonly used to refer to the earth/ground wire in a balanced microphone lead? 1 mark

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- c. In audio production, what is an isolation transformer generally used for? 1 mark

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**Question 8** (4 marks)

- a. What happens to the speed of sound as a venue heats up? 1 mark

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- b. Explain why a specific type of frequency is more likely to be absorbed by audience body mass. 2 marks

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- c. What is the accepted frequency range of human hearing? 1 mark

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**Question 9** (5 marks)

- a. Describe **two** differences in sound between an acoustic guitar connected to a mixing desk through a DI box and an acoustic guitar connected to a mixing desk through a microphone. 2 marks

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- b. Describe power supply differences between an active DI box and a passive DI box. 1 mark

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- c. Describe a situation in which you would use 2 marks

- an active DI box

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- a passive DI box.

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**Question 10** (4 marks)

Identify **four** pieces of information a sound engineer would need from a band when planning the band's demo recording.

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**Question 11** (8 marks)

Complete the table below by identifying the most suitable microphone(s) for different tasks and giving a reason for each decision. You may choose options from the following list only:

- a large diaphragm dynamic microphone
- two small diaphragm condenser microphones
- a small diaphragm dynamic microphone
- a lapel microphone
- two hung miniature shotgun microphones
- a shotgun microphone

<b>Task</b>	<b>Microphone(s)</b>	<b>Reason</b>
stereo recording of a choir in a studio		
reinforcing a kick drum at a live gig		
broadcasting a television newsreader		
reinforcing a chorus in a stage musical		

**Question 12** (4 marks)

- a. How many decibels of loudness are added for every doubling of power? 1 mark  
 \_\_\_\_\_ dB
- b. What is the typical decibel sound pressure level for the threshold of pain? 1 mark  
 \_\_\_\_\_ dB SPL
- c. What is the typical decibel sound pressure level for the threshold of hearing? 1 mark  
 \_\_\_\_\_ dB SPL
- d. What is the common name to describe +4dBu? 1 mark  
 \_\_\_\_\_

**Question 13** (2 marks)

Describe what the following symbols commonly found on audio equipment represent.

- $\emptyset$  \_\_\_\_\_
- $\Omega$  \_\_\_\_\_

**Question 14** (4 marks)

- a. At what voltage is phantom power typically supplied on a mixing console? 1 mark

\_\_\_\_\_

- b. What does the term 'attenuate' mean? 1 mark

\_\_\_\_\_

- c. Describe the difference between a parametric equaliser and a graphic equaliser. 2 marks

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\_\_\_\_\_

\_\_\_\_\_

**Question 15** (5 marks)

- a. A flown speaker system is hung over the audience.

Name the licence a person must hold to install the hanging points for this kind of system. 1 mark

\_\_\_\_\_

- b. Describe two items of protective equipment you would expect to see during the setup of a large-scale event and explain how each item minimises risk. 4 marks

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_