2008 VCE VET Music Industry (Tech Prod) GA 2: Aural and written exam

GENERAL COMMENTS

The 2008 examination paper was received well by students and there was a slight improvement on the 2007 results. However, it appeared that some students rushed the paper, did not read questions properly, did not give clear explanations and guessed the answers to some questions. Students must ensure that they revise thoroughly. Teachers should ensure that students have access to and are familiar with a wide range of equipment.

SPECIFIC INFORMATION

Section A

Question 1

Marks	0	1	Average
%	15	85	**0.9**

Reverb

Most students answered this question correctly.

Question 2

Marks	0	1	2	3	4	Average
%	15	8	18	6	53	**2.8**

2a.
500

2b.
1 kHz

2c.
8 kHz

2d.
4 kHz

Most students were able to answer this question correctly.

Question 3

Marks	0	1	2	3	Average
%	14	49	19	18	**1.4**

3a.
Delay or echo

Students generally answered this question correctly.

3b.
Delay time

Most students are still not familiar with the parameters of the 'delay' effect and described what they heard rather than naming the parameter and how it had been altered.

3c.
The delay time has been reduced.

Question 4

Marks	0	1	2	Average
%	74	11	16	**0.4**

4a.
Compression

4b.
Dynamic range has been reduced.

Most students did not recognise compression as the kind of processing applied in Question 4a. Students who were able to recognise compression also correctly identified the change to the dynamic range.

Question 5

Marks	0	1	2	3	Average
%	6	7	24	63	**2.5**

Problem: feedback/low frequency hum
Solution: Reduce the volume of the guitar, reduce the input gain, use a more directional microphone, phase reverse the guitar channel, use equalisation to remove the feedback frequency, move the microphone further away from the speaker, put a feedback stopper on the guitar

Most students recognised that feedback was the issue, but used 'volume' rather than 'gain' to identify what needed to be altered. Students needed to recognise that the problem was at the input stage and therefore their answer should have referred to gain structure.

Question 6

Marks	0	1	2	3	4	Average
%	2	14	30	34	19	**2.6**

6a.
The second excerpt has backing vocals added.

6b.
The second excerpt has the bass guitar muted.

6c.
The second excerpt has reverb added to the snare drum/the drum level is reduced.

6d.
The second excerpt has distortion added to the vocal/overdrive.

Most students picked up that backing vocals (6a.) and distortion (6d.) had been added. Many found it difficult to pick up the removal of the bass guitar (6b.) and the addition of reverb to the snare (6c.).

Question 7

Marks	0	1	Average
%	40	60	**0.6**

Reverse/drag scrub tool backwards

A large number of students correctly identified 'reverse' or 'played backwards' but there was still a large number who were unsure and instead used digital audio terms.

Question 8a–c.

Marks	0	1	2	3	4	5	Average
%	6	26	23	26	9	10	**2.4**

8ai.
Time compression

A significant number of students explained the effect of time compression but did not know the name of the process.

8aii.
The pitch has not changed.

The majority of students incorrectly identified that the pitch had been affected.

Question 8b.
Most students knew the term 'pitch shift' but incorrectly assumed that the music had sped up.

8bi.
Pitch shift

8bii.
The length has not changed.

Question 8c.
Fade in or automation

Most students heard the fade in.

Question 9

Marks	0	1	2	Average
%	10	24	65	**1.6**

Problem: distortion, clipping, signal overload
Solution: reduce the input level, reduce the signal lever prior to the point in the signal path at which distortion occurs, turn the distortion off (guitar pedal), adjust compression

Most students recognised that distortion was occurring. As in Question 5, terminology issues were evident in this question with students incorrectly suggesting turning the volume down rather than adjusting the gain.

Section B

Question 1

Marks	0	1	2	Average
%	18	14	68	**1.5**

1ai.
Square

1aii.
Sine

The majority of students were able to identify the waveforms, however the number of students who referred to the waveforms as 'digital', 'box' and 'analogue' was concerning.

Question 2

Marks	0	1	2	Average
%	28	29	43	**1.2**

Audible result: silence, greatly reduced volume, the sound would cancel
Explanation: out of phase, phase cancellation, peak + trough = 0

Many students gave a good explanation but did not explain the audible result.

Question 3

Marks	0	1	Average
%	89	11	**0.1**

54 dB

As in last year's paper there was still some confusion around SPL and distances.

Question 4a–b.

Marks	0	1	2	Average
%	1	19	80	**1.8**

4a.
Bass guitar

4b.
880 Hz

Overall students did well in this question

Question 5a–b.

Marks	0	1	2	Average
%	9	48	43	**1.4**

5a.
24 bit

5b.
24 kHz

Students coped well with the wider dynamic range part of the question but struggled with the Nyquist frequency.

Question 6i–ii.

Marks	0	1	2	Average
%	95	0	4	**0.1**

6i.
12 bit = 72 dB

6ii.
20 bit = 120 dB

Question 7

Marks	0	1	Average
%	79	21	**0.2**

Kilo bits per second

Most students confused ‘bits’ for ‘bytes’.

Question 8

Marks	0	1	Average
%	60	40	**0.4**

44.1 kHz or 44 100

Question 9

Marks	0	1	Average
%	16	84	**0.9**

iii. mp3

Most students correctly recognised that the mp3 file was the format that used data compression.

Question 10a–b.

Marks	0	1	2	3	Average
%	34	21	19	26	**1.4**

10a.
Click, glitch, pop

10b.
Adjust the end of the region, add a fade or redraw the waveform to zero

This question asked what audible result might occur at the **end** of the waveform, however many students gave answers relating to the horizontal line halfway through the sample. Many students stated correctly that there may be a click or pop or something similar, but then incorrectly suggested using compression to fix it.

Question 11a–b.

Marks	0	1	2	3	Average
%	41	29	21	9	**1**

11a.
Decreasing the length or speeding up of audio without affecting the pitch

11b.
The transfer rate or access speed of the USB flash drive is insufficient.

Few students answered this question correctly. Some students were aware that the speed had changed, but were unaware that the pitch had also changed. Students did not always use the correct terminology.

Question 12

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	11	8	13	9	8	9	9	9	8	7	9	**4.8**

1. Insert
Function: allows for access to the signal path prior to the equalisation section
Application: compressor, gate, equalisation or another signal processor. Requires an insert or 'Y' lead

2. Input sens
Function: adjusts the level of the signal as soon as it enters the mixing desk
Application: boosts the level of a weak signal. Reduces the level of a signal that is too high

3. Aux pre
Function: allows some of the signal to be split and sent to an external device before the fader
Application: used for foldback sends or any application where a mix pre fader is required

4. Aux post
Function: allows some of the signal to be split and sent to an external device after it has passed through the fader
Application: used for effects sends or any other application where a post fader mix is required, such as delay boxes or speakers in other areas

5. (Assign) 1–2
Function: routes the channel output to buses 1 and 2
Application: this can be used to set up a sub mix. Pan control sets the amount sent to each bus

The difference between students with access to PA equipment rather than studio equipment was evident in this question. The 'insert' seemed to cause the most problems, with a large number of students thinking it was a different input.

Question 13

Marks	0	1	2	3	4	5	6	7	8	Average
%	21	9	15	10	13	8	16	2	5	**3.2**

1. High pass filter attenuates the frequencies below the cut off and allows frequencies through (The 'Q' or slope setting as the amount of attenuation per octave was also accepted.)

2. LF FREQ selects the frequency below which can be cut/boosted

3. Switches the EQ band between parametric and shelving/switch between types of EQ filtering

4. Cut/boost control for the high frequency band

The digital students appeared to perform well in this question.

Question 14

Marks	0	1	Average
%	20	80	**0.8**

A small diaphragm condenser

Most students performed well on this question.

Question 15

Marks	0	1	2	Average
%	32	38	30	**1**

Reposition the microphone so that the back is pointing towards the guitar or move the microphone closer to the singer.

Students are reminded to read questions carefully as many assumed that there were two people playing. Generally students were on the right track with regard to positioning.

Question 16

Marks	0	1	Average
%	16	84	**0.9**

Balanced cable

The phantom power question was answered correctly by most students.

Question 17i–ii.

Marks	0	1	2	Average
%	27	37	35	**1.1**

17i.
Graphic

17ii.
Parametric (not semi-parametric or sweepable)

Most students correctly identified the graphic equalizer, but many did not know what a parametric equalizer was.

Question 18

Marks	0	1	2	3	4	5	Average
%	1	7	15	32	19	27	**3.4**

Students were confused with this mixer layout. Teachers should ensure that students have access to many different types of equipment and that the concepts are reinforced throughout the study. Students were very confused about pre and post, and aux returns.

Question 19a–b.

Marks	0	1	2	3	4	Average
%	27	12	25	19	16	**1.9**

19a.
Wiring 1 = parallel, wiring 2 = series

19b.
Wiring 1 = 4Ω, wiring 2 = 16 Ω

This question required underpinning knowledge and these concepts need to be revised regularly.

Question 20a–b.

Marks	0	1	2	Average
%	78	20	3	**0.3**

20a.
Sony Philips Digital InterFace

20b.
Two channels of audio

Most students had difficulty with S/PDIF.

Question 21

Marks	0	1	2	Average
%	71	17	12	**0.4**

Placement 1: A-B/spaced pair/3:1 ratio

Placement 2: X-Y, co-incident pair

Question 22a–c.

Marks	0	1	2	3	Average
%	52	34	5	9	**0.7**

22a.
220–240v

22b.
10 amps

22c.
2400 Watts

This question (or a variation of it) has appeared many times on this examination. It is concerning that many students lack knowledge of power and how to complete very simple calculations. These concepts must be introduced early in the study and revisited regularly.

Question 23

Marks	0	1	Average
%	7	93	**1**

No

Question 24i–iii.

Marks	0	1	2	3	Average
%	6	8	31	55	**2.4**

Omni, cardioid, super-cardioid

Most students answered this question correctly, however quite a few students gave answers that were not on the list.

Question 25

Marks	0	1	2	3	4	5	Average
%	4	11	22	23	6	34	**3.2**

Electric piano, DI, mixer, stereo graphic, crossover, power amps, speakers

Once again this question separated the PA based students from the studio based students. Overall students did well on this question, although some confusion about the position of the crossover was still evident.

Question 26

Marks	0	1	2	3	4	5	6	Average
%	25	8	14	19	10	6	19	**2.8**

Method 1: feed pink noise through the PA and use a microphone and spectrum analyser while adjusting the FoH graphic to achieve a flat response

Method 2: open a vocal microphone channel (or the microphone which you might expect to be the loudest) and increase the volume until feedback is heard. Remove the frequency with the graphic. Increase the volume again until the next feedback frequency is heard

It was apparent that students have some idea about tuning a room, although they often gave different descriptions of the same method.