

# VCE VET Music Industry: Sound Production examination report

## General comments

Despite the challenges of completing subjects with a practical element in 2020, students generally performed well in the examination.

In terms of the relationships between concepts, few students demonstrated a good grasp of the various aspects and concepts as they relate to the understanding of the physics of sound at this level or how basic electricity works.

In Part A, students had some difficulty understanding the difference between effects and processing. The study of sound production is technical so students' answers should be of a technical nature. Students are encouraged to use correct terminology and technical language accurately.

Students incorrectly used the following words interchangeably:

- feedback and foldback
- frequencies and waveform
- frequencies and sound pressure
- frequencies with volume/gain
- dynamic mic and dynamic range (teachers should make sure students are aware of the difference in meaning of 'dynamic' in mic operation).

Students are encouraged to supplement their exam preparation with participation in real-life practical situations, for example: setting up school assemblies, music, drama or theatre studies assessments, and annual concerts, plays/musicals. Participation in practical tasks will help reinforce the correct terminology and practice of running cables, being aware of electricity and other safety issues.

Students are reminded that the reading time is very important; all questions need to be thoroughly read and read again.

## Specific comments

### Section A

Section A was very well responded to; most students had a good grasp of the processes and could separate the concepts.

## Question 1a

Marks	0	1	2	Average
%	12	44	43	1.31

The correct answers:

- snare
- tambourine.

## Question 1b

Marks	0	1	Average
%	18	82	0.82

The correct answer was kick, bass drum, drums, percussion or beats.

## Question 1c

Marks	0	1	Average
%	27	73	0.73

The correct answer was distortion, overdrive or fuzz.

## Question 1d(i)

Marks	0	1	Average
%	27	72	0.72

The correct answer was kick, bass drum, drums or percussion.

## Question 1d(ii)

Marks	0	1	Average
%	41	59	0.58

The correct answer was reverb.

## Question 2a

Marks	0	1	Average
%	52	48	0.48

The correct answer was that the bass clarinet had been muted / removed / turned down.

## Question 2b

Marks	0	1	Average
%	58	42	0.41

The correct answer was delay/echo.

## Question 2c

Marks	0	1	Average
%	40	60	0.59

The correct answer was reverb.

## Question 3a

Marks	0	1	Average
%	58	42	0.42

The correct answer was reverb has been added to the bass guitar.

## Question 3b

Marks	0	1	Average
%	18	82	0.81

The correct answer was distortion has been added to the bass guitar.

## Question 3c

Marks	0	1	Average
%	63	37	0.37

The correct answer was depth.

## Question 3d(i)

Marks	0	1	Average
%	54	46	0.45

Students were awarded one mark for one of the following: play style / hand muting the strings too hard.

## Question 3d(ii)

Marks	0	1	2	3	4	Average
%	24	26	30	9	10	1.54

Correct answers:

Type of audio processing	Explanation
Noise gate; expander	Reduces the volume below a set threshold
Editing (cutting not accepted)	Remove/cut/delete the problem section of the waveform
Automating volume	Attenuate the problem of the waveform

## Question 4a

Marks	0	1	Average
%	34	66	0.65

Students were awarded one mark for either answering ring modulator or Roswell Ringer.

## Question 4b

Marks	0	1	Average
%	50	50	0.49

Students were awarded one mark for tremolo or total tremolo.

## Question 4c

Marks	0	1	Average
%	41	60	0.59

Students were awarded one mark for octaver or Dr Octaver.

## Question 4d

Marks	0	1	Average
%	15	85	0.85

The correct answer was pitch shifter.

## Question 5a

Marks	0	1	Average
%	60	40	0.39

Students were awarded one mark for any of these answers: graphic or parametric equaliser (EQ) / high-pass filter (HPF) and low-pass filter (LPF) / bandpass filter / boost the mids / filter out the highs and lows, low cut and high cut.

## Question 5b

Marks	0	1	Average
%	42	58	0.57

Students were awarded one mark for any of these answers: HPF / remove mids and lows, low cut.

## Question 5c(i)

Marks	0	1	Average
%	9	91	0.91

The correct answer was delay/echo.

## Question 5c(ii)

Marks	0	1	Average
%	62	38	0.38

The correct answer was delayed feedback.

## Section B

Most of Section B was answered well and concisely.

## Question 1a

Marks	0	1	Average
%	67	33	0.32

The correct answer was proximity effect.

Many students weren't able to read frequency response charts and polar pattern charts.

## Question 1b

Marks	0	1	Average
%	25	75	0.75

The correct answer was 1kHz/1000Hz.

## Question 1c

Marks	0	1	Average
%	31	69	0.69

The correct answer was 10kHz/10,000Hz.

## Question 1d

Marks	0	1	Average
%	44	56	0.56

The correct answer was 120 degrees, but students were also awarded the mark if their answer was between 100 and 140 degrees.

## Question 2

Marks	0	1	Average
%	19	81	0.81

The correct answer was manual (or an answer that clearly described manual handling).

## Question 3

Marks	0	1	Average
%	42	58	0.57

The correct answer was that no lifting was required.

## Question 4

Marks	0	1	Average
%	53	47	0.47

One mark was awarded for any one of the following answers: different waveform, waveshape, different soundwaves, overtones, harmonic content, timbre, tone.

## Question 5a

Marks	0	1	2	Average
%	51	22	27	0.76

Students received one mark of each of the following:

- increase gain/volume/loudness/fader until feedback tone is first heard
- identify and reduce/attenuate/turn down frequency on graphic EQ.

## Question 5b

Marks	0	1	Average
%	63	37	0.37

Students received one mark for any of the following: frequency response of the foldback system; changes dependent on objects in front of the microphone; singer's mouth acts as a resonant chamber; singer's face reflects sound from the wedge back into the microphone; singer may absorb sound.

Many students did not understand that the singer can reflect or absorb audio, which can affect the on-stage sound.

Input source	Type of microphone	Type of microphone stand
kick drum	large diaphragm dynamic microphone	short boom microphone stand
drums overhead 1	small diaphragm condenser microphone	tall boom
guitar amplifier 1	dynamic instrument microphones	short boom microphone stand
vocals 1	dynamic vocal microphone	tall boom microphone stand

## Question 6a

Marks	0	1	2	3	4	Average
%	1	3	14	19	64	3.42

Students often gave a response on mic selection that might have been correct but didn't refer to the appropriate functions of the microphone: frequency response, diaphragm size; sound pressure level (SPL) to dynamic, polar pattern to rejection.

## Question 6b(i)

Marks	0	1	Average
%	27	73	0.73

Students were awarded a mark for any of the following answers: large diaphragm will best pick up low frequencies of the kick drum / allows other microphones to be best matched to other sound sources / dynamic good for high SPL/volume.

## Question 6b(ii)

Marks	0	1	Average
%	74	26	0.26

Students were awarded a mark for any of the following answers: dynamic instrument microphone will best be able to handle high volume/SPL of guitar amp / reference to (cardioid) directionality / allows other microphones to be best matched to other sound sources as it does not need to have a pop shield

Many students gave some level of suitable response but didn't connect it with the relevant property of the microphone.

## Question 6c

Marks	0	1	2	Average
%	24	46	29	1.04

Students were awarded a mark for any two of the following answers: clean signal / no spill / no amp sound / full range sound / avoids miking only one speaker in a two-way box / does not unnecessarily use a mic / more control.

## Question 6d

Marks	0	1	2	3	Average
%	16	18	30	35	1.84

Students were awarded a mark for any three answers: neat set up / fewer trip hazards / easy to fault find when things go wrong / economise on the amount of individual cables required / faster set-up and pack-down / allows for being further away from the performers / less interference.



## Question 6e

Marks	0	1	2	3	4	Average
%	9	13	18	27	33	2.63

One mark for correct number and item:

1	microphones/DI and XLR cables
2	multicore
3	mixing desk
4	graphic EQ
5	dual-channel compressor with both channels set to limiting
6	FOH speakers/active speakers; mixing desk can be accepted at position #2 if the signal flow follows correctly

## Question 6f

Marks	0	1	2	3	4	5	Average
%	48		24	15	5	7	1

1	microphones/DI and XLR cables
2	multicore
3	mixing desk
4	multicore
5	graphic EQ
6	amplifier
7	passive speaker wedges

## Question 6g

Marks	0	1	2	3	4	Average
%	21	27	32	13	7	1.57

Correct answers:

Equipment or instrument with unbalanced jack	Equipment the jack-to-jack lead would be connected to
bass guitar (to the PA system)	DI
DI unbalanced out	Bass amp
mixing desk aux post out	FX unit
FX unit out	Mixing desk

## Question 6h

Marks	0	1	Average
%	78	22	0.21

The correct answer was 8 ohms.

## Question 6i

Marks	0	1	2	3	4	5	Average
%	2	12	23	30	30	2	3.67

Students were awarded one mark for any one of the following: power amp; active speakers; mixing desk (mixer); FX unit; compressor.

Many students put passive speakers as an option to connect to mains power. Students needed to be clearer about passive and active speakers.

## Question 6j

Marks	0	1	Average
%	57	43	0.43

Students were awarded one mark for any one of the following: use additional power outlets and divide the equipment across these outlets / use 3-phase outlet with distribution board / generator.

Many students identified the correct answer as reducing the amount of equipment, but the question asked how to solve an electrical load issue.

## Question 7a

Marks	0	1	Average
%	59	41	0.4

The correct answer was DAW band recording session.

## Question 7b

Marks	0	1	2	3	Average
%	15	16	32	37	1.91

Three marks were awarded for any three of the following: track arrangement; editing information / mix settings / track colour/labeling information / view settings / notes / screen layout/bussing / plug-in type or settings / audio file information (resolution/sample rate/location) / tempo / duration of recording / editing / tracks, types.

## Question 8a

Marks	0	1	2	3	4	Average
%	11	30	37	22	11	1.7

Three marks were awarded for each of the following:

- Explanation: the back reflects sound away from the microphone
- Reason 1: unwanted sound doesn't get picked up by the microphone
- Reason 2: it doesn't reflect back into the microphone.

Some students described how each accessory around the mic worked but put the response against the wrong part of the question.

## Question 8b

Marks	0	1	Average
%	50	28	1.06

One mark for each of the following:

- Description: foam inner absorbs sounds
- Unwanted sound: creates a dead acoustic space.

Some students described how each accessory around the mic worked but put the response against the wrong part of the question.

## Question 9a

Marks	0	1	2	3	Average
%	14	12	34	40	2

One mark for either of the following:

- Control 1: compressor / limiter / DBX 166
- Control 2: threshold / ratio.

## Question 9b

Marks	0	1	Average
%	21	79	0.78

Students were awarded one mark for any of the following: multi FX; TC electronic; M-one; XL Hall; reverb.

## Question 9c

Marks	0	1	2	3	Average
%	39	22	17	22	1.22

Students were awarded one mark for any fader circled, or any faders between 3.15 and 10kHz.

## Question 9d

Marks	0	1	Average
%	54	46	0.46

Students were awarded one mark for any of the following: gate / expander / expander gate (threshold) on the compressor/expander.

## Question 9e

Marks	0	1	2	Average
%	23	24	53	1.3

Students were awarded one mark each for the following answers:

- line check may be conducted with or without musicians, in order to check signal routing and continuity of audio paths
- sound check is conducted with musicians at volume to ensure all settings relevant to the performance are ready / balance and mix audio for FOH and FB.

Students should avoid using 'power' and 'signal' interchangeably.

## Question 10a

Marks	0	1	Average
%	46	54	0.54

Students were awarded one mark for any of the following: clipping / distortion / peaking.

## Question 10b

Marks	0	1	Average
%	37	63	0.63

Students were awarded one mark for any one of the following: re-record with lower input gain/volume / move microphone further away / play softer / insert compressor before interface / compress.

## Question 10c

Marks	0	1	Average
%	93	7	0.07

Students were awarded one mark for any one of the following: re-draw the waveform at the clipping points / insert an EQ and remove HF / multiband compressor on HF / compression by itself is not acceptable.

## Question 11

Marks	0	1	Average
%	45	55	0.54

Students were awarded one mark for any one of the following: bi-directional microphone has virtually no pick-up at 90 degrees / maximum rejection of the playback tracks is side on to a bi-directional microphone.

## Question 12

Marks	0	1	2	Average
%	64	34	2	0.37

Students were awarded one mark for any one of the following: to power the built-in pre-amp / to charge up the microphone capsule / to power the microphone.

## Question 13

Marks	0	1	2	3	Average
%	66	28	2	4	0.43

Students were awarded one mark for any one of the following: direct; direct sound; early reflections; late reflections.

Students demonstrated little sense of room acoustics. Very few used the correct terms of direct sound, and late and early reflections.

## Question 14a

Marks	0	1	Average
%	12	88	0.87

The correct answer was high-pass filter.

## Question 14b

Marks	0	1	2	Average
%	61	24	15	0.53

Students were awarded one mark for any one of the following: by turning up the output control / output increased by 2.2 dB.

Students were awarded one mark for any one of the following: in order to have no/minimal change in volume when bypassing the EQ / so that a comparison can be made between the flat and EQ'd without a change in track volume.

Few students understood the relationship between gain in the FX Unit and its effect on the overall gain structure.

## Question 14c

Marks	0	1	Average
%	63	37	0.36

Students were awarded one mark for any one of the following: HF / high frequency / HF shelf.

Many students used individual frequencies when asked for frequency range.

## Question 14d(i)

Marks	0	1	2	Average
%	77	9	14	0.36

Students were awarded one mark for any each of the following:

- parametric/sweepable
- it allows a narrow band to be selected and attenuated/cut/boosted.

Many students didn't know the workings of a parametric equaliser (EQ).

## Question 14d(ii)

Marks	0	1	Average
%	73	27	0.26

Students were awarded one mark for: it targets a narrow band of frequencies, and the higher the  $q$  the narrower.

Many students could not describe what the  $Q$  function does in an EQ.