Examiners' Report/
Principal Examiner Feedback

Summer 2014

Pearson Edexcel GCE
in Music Technology
6MT04 Analysing and Producing

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Summer 2014
Publications Code UA039585

General Introduction

All questions reflected a full range of responses. Paper totals ranged from less than 10 to 80 reflecting a well-judged assessment. It is thought that the paper was very fair, revealing clearly the candidate's ability level. This is reflected in feedback received from both teachers and examiners.

There was a clear distinction between centres that had prepared well using past papers and thoroughly researched music technology theory, and those that seemingly had invested little time on theory and mock examinations. Candidates from the latter centres would not be able to access the higher grades due to insufficient detail in responses.

Some students did not solo the tracks, left the metronome or effects switched on for tasks 1 and 2 so they could not access all of the marks.

Good quality DAW software should be used. Centres should not rely on entry-level software because many of the plug-ins and editing functions required for the paper may not be available.

Most centres were well prepared for the examination. However there continue to be similar problems to previous years:

- Some CDs did not play, suggesting that centres did not test them before posting.
- Some CDs were scratched due to the pen that was used to label it.
- Some were damaged in the post. CDs should be wrapped carefully.
- The most common mistake was burning a data CD instead of an audio CD.
- Some exam papers were posted much later than the exam date.
- Some CDs were sent from the papers.
- Sticky labels on CDs can damage CD drives and render the disc unplayable.

There were a handful of examples of suspected malpractice. In these cases, it is probable that centres did not provide an exam log-on free from any previously saved data. Candidates had submitted audio from a previous exam series, probably from their mock exam. Unfortunately for these candidates, they didn't have access to any of the audio marks because the wrong material had been used. Computers must not have access to the internet, any other network or previously saved files. Refer to the Assessment Support Guide on the Pearson website.

Question 1

A few students who were clearly good technologists, scoring high throughout the paper, did not have the musical understanding to approach (b) and (d) in the same way. Candidates should be encouraged to use the technology to aid them in answering pitch and rhythm questions. Rhythm can be determined by looking at transients in the waveform and aligning it with the bars and beats on the DAW

timeline. Pitch can be determined by simply playing the keyboard until the correct note is found.

(a) Most candidates put the correct answer here stating the quantise value as 1/16.

(b) Marks ranged from 0 to 4. Most candidates scored 2 or 3 marks here – the syncopated rhythm in bar 37 proved most challenging. Students need to be reminded to make their answers very clear and neat because a number of students lost marks for the rhythm question by misusing rests (e.g. minim rests that floated high above the line). Some writing of notation and was very poor and at worse not assessable. Some candidates failed to check that the bar added up to 4 beats.

(c) I was impressed that most candidates displayed an aural understanding of synthesis and got the two questions right. Although quite a large proportion of candidates dropped one mark here; very few achieved 0.

(d)(i) Most candidates scored 2 or 3 with a few who achieved full marks. Like (b), sometimes poor presentation made it impossible to mark as the note pitch was illegible; often the note-head was too big filling a line and a space.

(d)(ii) Nearly all candidates got this correct.

(e) Very few candidates achieved full marks in this question. This question identified the higher grade candidates; most scored 2 on this question. Most candidates could identify the early reflections. Candidates found labelling RT60 and the axes difficult. Even if a candidate was not specifically taught about RT60 there were enough clues in the question (including the -60 on the y-axis) to enable them to deduce the answer.
Candidates often gave conflicting answers for the axes (e.g. frequency/time on the x-axis) for which no credit could be given.

Question 2

(a) The paper was designed so that the synth sound needed to be created from scratch and presets could not be relied upon. Sometimes the octave was incorrect, often higher. Most candidates seemed to lose marks for the release and/or decay times, perhaps not hearing the drop in decay or very staccato nature of the example timbre. A small number of candidates used inappropriate timbres such as piano so little credit could be given. There were a number of candidates who used presets that included delay and reverb, limiting credit available. Presets with envelope filtering left unaltered failed to score for the correct filtering. Surprisingly, there were a significant number of mono synths; candidates should have been able to hear that the chords were not being properly realised. Bouncing errors from the candidates prevented examiners being able to give full credit because they could not hear the work clearly.

Bouncing errors included:

- a moving filter present for question 5a
- bars 27-31 only
- metronome left on

(b) and (c) Most responses were accurate. Some candidates used a graphical view so failed to score with a value close but incorrect.

(d) Candidates mostly scored either 2 or 0 marks for this task: they either completed it successfully or made no audible attempt to fix the error. A small number of candidates fixed the errors but introduced glitches from not zooming in closely enough. Some candidates caused the whole part to be out of tune so no credit could be given.

(e) I understood why many candidates went for 4 incorrect answers, (pitch/velocity etc) considering the interaction with MIDI most people have nowadays. It is a much more hidden thing with software disguising the extensive use of MIDI. However in an academic qualification, candidates are expected to know what happens ' under the bonnet' .

Question 3

(a)(i) The majority of candidates were able to correctly identify the polar pattern switch, as well as identifying what the switch does. Only the best candidates were able to state a correct reason in context.

(ii) This was less well answered than part (i) with less than 50% of candidates able to identify the pad switch. A significant number left this part of the question blank. A popular wrong answer was a filter switch.

(b) Most candidates were able to achieve this task successfully with very few leaving any noise on the track. Likewise, very few got the join out of time but there were many who had a glitch or click, usually scoring half marks. Candidates who didn' t properly solo the vocal part, left the metronome on or had effects could not achieve more than half marks because the examiner was unable to hear the detail in the edit.

(c)(i) This question was poorly answered. Not many candidates showed knowledge about how electronic sounding vocal lines in dance music heard in the charts are produced.

(c)(ii) Most students got the notes correct with the most common mistake being B instead of Bb.

Question 4

There are two options for question 4, designed to give all candidates with diverse music technology interests a chance to illustrate their expertise for the subject.

This question differentiated well across the cohort. There was a full range of responses ranging from 0 marks where no relevant information had been written, to some excellent responses scoring more than maximum marks. The exhaustive mark scheme gave credit for all relevant knowledge and covered the range of candidate responses.

Lengthy, meandering answers with little or repetitive content failed to secure high marks. Many candidates lost marks simply because they were unclear in their responses - this could be due to a lack of knowledge or terminology, or an inability to communicate in a clear and concise manner. There was the occasional candidate whose writing was very poor and difficult to decipher. Candidates must spell technical terms correctly to gain credit in this question.

A student that had just memorised information without understanding it is not going to score very highly in this question because it is designed to test higher levels of understanding. To obtain top marks in question 4, an informative use of technical vocabulary applied to an unfamiliar situation is expected.

Well labelled graphs with units and scaled axes could score over half of the 16 marks available for both options. Candidates should not feel restricted to prose when a labelled diagram would illustrate the points better.

The cohort was split roughly 50/50 between (a) and (b).

(a) This was a good open question that candidates could draw on their experience in task 3B, Multi-track recording. Many candidates demonstrated a good understanding of different types of equalisation and how these techniques could be used in a practical scenario. Less successful responses often contained more vague statements about 'certain frequencies' and 'changing the sound' without providing more detail or using any technical language. Practical uses needed an explanation of why and how in the context of the correct EQ type to score marks. Therefore " use high shelving on hi-hats" didn' t score a mark because there is no explanation as to why.

Some candidates had memorised information regarding historical explanations relating to the invention of EQ, and the role of the BBC in its design. However, reciting information from memory that is only loosely based on the question topic is not credited in this question. Information needs to be put into the context of the question – in this case the practical use of EQ in the studio.

Candidates who kept to the essay structure suggested in the question often scored the highest grades i.e.

- What is EQ?
- Describe the different types with one practical use
- Describe the difference between parametric and graphic EQ

Nearly all candidates were not aware of what graphic EQ is, referring to a graphic representation of channel EQ in software packages. Only a handful of candidates scored for this part of the question.

(b) The photograph for this question provides an opportunity for candidates to apply their knowledge to an unfamiliar situation by taking cues from the picture. A candidate that correctly linked their practical experience of synthesis to the controls seen in the photograph could score very high marks. The weakest candidates would simply expand the name of a control into a sentence, for example " the volume knob turns up the volume". No credit is given for candidates rewording the question.

The layout of the picture resulted in mostly well-organised and clear answers. Some concise answers were less than a page long and scored 16. Merely identifying the features would limit credit, whilst explaining the controls could lead to more than full marks being scored.

Some candidates opened with a general discussion on synthesis quoting differences between additive and subtractive synthesis without reference to the picture, or a discussion on a variety of synthesisers and artists/songs in which they featured. Candidates should not waste their time and space with such openings which do not answer the question and score no marks.

Many had a good understanding of how analogue synthesis works but often lacked specific detail. The vast majority of students who answered this question could talk about the foundational elements; oscillators, filters, and envelopes.

A large number of candidates did not successfully give the correct waveforms that were available either in the MOD or VCO section of the synthesiser; many were confused with sawtooth and triangle, or listed waveforms not featured in the picture. Often most marks were scored for articulating how an ADSR envelope works, though some stages of the envelope were too vague or confused for credit, especially sustain.

Higher ability candidates were able to discuss in great detail how the synthesiser works. The best answers were where candidate's worked methodically through the image provided documenting technical detail about each stage. Higher ability candidates did well to explain how the modulator section affected the other stages of the synthesiser. Lower ability students struggled to gain credit when discussing this section as they confused it with delay effects.

Common answers on the benefits of software synthesisers were that they are cheaper, can use MIDI, are polyphonic and can save presets. Not many candidates discussed further benefits.

Question 5

This question had a good range of editing, processing and effects-based tasks to cater for a wide range of student ability and knowledge. Many candidates scored full marks in question 5.

Candidates should answer the questions and not add other creative panning, dynamic processing, EQ and effects not specified in the question. Otherwise full

credit may not be given because the processing that the question asks for may not be clearly audible. For example this year, adding reverb to any tracks made the vocal delay difficult or impossible to assess.

(a) Limited credit is available for merely using a preset. The paper is designed so that the use of presets would not fully answer the question. Candidates that only scored 1 didn't reduce the dynamic range enough. Teaching of these students should include the importance and implications of adjusting threshold and ratio setting in particular, and attack and release times once a good level is achieved.

(b) The cohort was evenly split between fully correct, no attempt at all or lack of crescendo in the second half of the verse. For some in this last group, their automation may have been gradual as directed, but applied to instruments (or filters) with brightness levels that had little or no variation towards the top of the cutoff range. Students should be taught to use their ears, and not rely on the graphics on the screen. A small number of unusual responses involved what sounded like plug-in presets with LFOs applied to various parameters including the filter cutoff.

(c) Adding delay to the vocal was on the whole done well. However, many candidates set their delay time incorrectly showing that candidates don't know the difference between a quaver, crotchet and minim. It was good to see the majority controlled the feedback and level tastefully.

(d) Candidates generally responded well to the panning task, scoring full marks. A small number automated the pan too early or late; it is expected that care should be taken with the edit points. Some candidates panned their audio in reverse (left > right) which highlights the importance of ensuring candidates have their headphones on the correct way around.

(e) The tracks are deliberately mastered at wildly varying volumes to ensure that the student need to listen carefully (rather than look at fader positions) to earn credit. Many candidates achieved full marks for balance. The most common mistake was to have the drums too quiet and the chords too loud. In some mixes, the drums were inaudible. A few candidates managed to leave 'chords example' playing in the mix, or even multiple attempts for their Q2a synthesis task.

(f) Chopped endings continue to be a problem in coursework as well as this exam. This should be an easy 3 marks, but many candidates chopped off delay tails. This is just careless editing especially when candidates had achieved full marks elsewhere and then blew it with a chopped ending, resulting in 16/18.

Grade Boundaries

Grade boundaries for this, and all other papers, can be found on the website on this link:
http://www.edexcel.com/iwantto/Pages/grade-boundaries.aspx

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