Examiners' Report

Principal Examiner Feedback

Summer 2022

Pearson Edexcel International GCE

Music Technology (9MT0) Paper 4

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9MT0/04 Principal Examiner's Report to Centres 2022

Examiners thought that the paper was fair, revealing clearly the candidate's ability level.

Candidates often excelled in some areas more than others; they did not perform uniformly across the whole paper.

For the practical work for this unit, LWT seemed to work well. Work was well labelled and easy for examiners to locate. The problems of the past with snapped CDs etc have vanished.

Some candidates do not provide correct bounces so they could not access all of the marks because the work cannot be fully assessed, most commonly not soloing the track.

Examiners find it hard to read some handwriting. Credit cannot be given for answers that are illegible. This isn't limited to "scruffy" handwriting. There are examples of exceptionally neat handwriting, which is illegible, e.g., if the letters are too small, or joined up in a way that the letters cannot be read. If teachers have any doubt at all about legibility of a candidates handwriting, the candidate should type their answers. Typed answers were much easier for examiners to read and credit. Using a word processor has other advantages of being able to insert sentences etc.

During the exam, computers must not have access to the internet, any other network or previously saved files. In previous years, there were instances of candidates that had inadvertently submitted music from previous exam series (usually the MIDI part) proving to Pearson that their exam computers were not secure. This has been treated as malpractice by the centre. This year we saw no instances of this, so it's good to see that centres are better prepared.

Question 1

This question was intended to be a series of short answer accessible questions to ease the candidates into the exam. These gradually got harder throughout question 1.

(a) This was intended to be an easy starter question. Nearly all candidates scored correctly.

(b) Candidates had to notice the hi-hat rolls to score correctly on this question.

(c)(i) There was a mix of success in this question. There were quite a few where it was all wrong. The most common error was to mix or combine the snare and clap.

(c)(ii) "One-shot" was the most common correct answer. However, credit was given for a clear description of what a one-shot sample is, i.e., the length of the sample played throughout ignoring the note off. A common incorrect answer was stating that drum sounds are short.

(c)(iii) This was mostly answered correctly with 7. Examiners allowed "8" as an answer to allow for understanding that it was one byte.

(c)(iv) This was mostly answered correctly showing that candidates are well prepared for this binary question. Working out was often seen in the margins. Some candidates wrote the binary number back to front.

(d)(i) This question was mostly answered correctly. It was pleasing to see that candidates could distinguish distortion types.

(d)(ii) This question differentiated well across 1-5 marks; 0 was rare. Some candidates didn't solve the problem correctly. Instead of using another part of the song they tried to EQ out the noise scoring 0. Most scored 1 for "in time" and another for "no clicks". Candidates found it hard to locate the correct patterns for bars 15-16 and 17-18 so often 0 for these bars. Surprisingly, many candidates just looped through 19 and didn't notice that the drums stopped. 2 was a common mark for replacing the drums and having no clicks, but the patterns incorrect.

Question 2

Question 2 was two short questions about the bass part that differentiated well across the mark range.

(a) This question differentiated well across 0-3 marks. Some candidates had good understanding of the limitations of mobile phone speakers and the associated effects of playing bass frequencies through them. The most common marks were for "distortion" and "tinny" etc.

(b) This question was mostly 1 mark with better candidates differentiated scoring 2. The overwhelming majority of students were able to articulate knowledge of amplitude envelopes and the affect the short release time has on the bass note. Fewer candidates were able to further comment on what is then happening from a waveform perspective.

Question 3

Question 3 was about creating the piano timbre. Part (a) was designed to lead candidates to hearing the processing required for part (b).

(a)(i) Most candidates incorrectly chose "reverb" instead of compression.

(ii) Most candidates correctly chose "chorus".

(iii) Nearly all candidates scored 2 for the axes. A similar question to this has appeared several times over the years, so it was surprising how few candidates didn't draw a clipped waveform correctly. Many scored only 1 for the waveform by clipping at different amplitude levels, rather like a bitcrusher.

3(b) The most common score was 4 or 5 due to students not matching distortion and sustain; not being brave enough with pushing the processing really hard, or maybe just relying on presets. A significant minority of students made changes to bars 4-5 too. Mono signal wasn't common but a mono guitar amp sim last in the chain would have rendered any stereo chorus back into mono.

There were many examples where candidates had incorrectly used reverb to create more sustain so there wasn't anywhere near enough sustain to match bars 4-5; but 1 out of 2 could be given for "more sustain". Often the distortion was not heavy enough to affect the tails; only the peaks were distorted.

Candidates that used heavy compression, stereo chorus and high gain distortion with no edit clicks/glitches etc scored full marks.

Question 4

Question 4 was about the vocal parts: the lead vocal and the scratch vocal that the candidate would need to create.

(a)(i) This was mostly well answered with variations on consistent volume, but all the options in the mark scheme were covered. References to dynamics were not credited because "dynamic range" was given in the question.

(ii) This was mostly well answered with correct variations on unwanted noise. The most common "incorrect" answer was "takes away the feeling" etc.

(iii) This question worked excellently at differentiating across all marks 0-7. Nearly all candidates managed to score 2 though for the axes. A few got the full 7 marks. There was a small minority that didn't get a compression curve at all. In order of the most common first, marks were given for the flatter line, hard knee, 1:1 threshold mark, 10:1 slope, and then the gain make-up.

(b) Many candidates chose to word process this longer answer question. This question differentiated well across the mark range:

- Movement noise, plosives and proximity effect were commonly discussed.
- Most candidates that scored well described the effects of the EQ boost, e.g. clarity, sibilants, de-esser.
- A good number of candidates made the link of dynamic mic and the shelf compensating for lack of highs.
- Some candidates talked about the varying distance of a handheld mic but this wasn't credited because this isn't an issue in this recording, also varying distance can still be a problem with a mic on a stand if the singer dances around!

There were some candidates that scored no marks for very general answers without specific points despite writing nearly a page.

(c)(i) Not many candidates scored this correctly, so it differentiates at the higher grades. Candidates didn't seem to know about the relative sound qualities of different formats.

(ii) The distractors made this question quite easy. A few wrong "quantise", but mostly correct "time-stretch".

(iii) This question was interesting because candidates had to find a sample in a commercial recording and recontextualise it. This question worked as intended to differentiate the higher grades. Advance Information was given for this question; however, candidates didn't seem better prepared for it than normal. This question yielded a range of responses, from the full 9 marks down to 0, but marks above 6 were rare. The majority of candidates scored 3: the correct sample but at the wrong pitch (2) + some shallow pitch bend (1).

The majority of candidates were able to locate and prepare the sample without introducing any timing issues, clicks or glitches. Some mistakenly selected an earlier version of the sample with drums in the background, and a minority sampled from the 'scratch vocal example' instead of the Ariana Grande track, leading to an incomplete sample.

Pitch-mapping of the sample rarely matched the example given, with the majority of candidates pitching the sample an octave too high throughout, leading to a loss of many marks from the question.

Submissions where the pitch bend range had been successfully adjusted to one octave were exceptionally rare. The majority of candidates left the pitch bend range set to the default value of 2 semitones.

The most common issue with the final mark was the release of the amplitude envelope being set too high, probably the default. Learners who took care to match the pitch and envelope settings to the example achieved the best in this question.

A sizeable minority of candidates used a MIDI piano for the question.

Not attempting the scratch vocal had an impact on candidates' marks for 5(b), 5(f) and 5(g).

Question 5

This question had a range of editing, processing, and effects-based tasks to cater for a wide range of candidate ability. Although all questions differentiated across the grade range, they were targeted at different ability levels. Question (a) & (b) were targeted at E/D candidates, (c), (d) and (e) were targeted at high grades for full marks though lower grade candidates could also score some marks, and (f) and (g) were across the whole range.

Candidates should answer the questions and not add other creative panning, dynamic processing, EQ and effects not specified in the question. Full credit may not be given because the processing that the question asks for may not be clearly audible.

Candidates must check their wav files during the exam time. Examiners often see q5 files that are 2 bars long or have parts missing (because something was soloed). These types of q5 files haemorrhage marks.

(a) This was a basic noise editing task aimed at E grade candidates, however it seemed to differentiate at a higher grade because candidates didn't pay enough attention to the noise after "Yo". Most students were successful in removing most noise, usually leaving noise after 'Yo' to score 1. Occasionally, some noise was left in 3:3 or 'Yo' was cut from the mix, again scoring 1. A minority successfully removed all noise to score 2.

(b) This question was aimed at E grades for an easy 3 marks so was mostly successfully completed. Candidates who did not attempt 4(c)(iii) or omitted scratch vocal from the mix scored 0 because there was no part to pan. Full credit was still given for correct panning even if the scratch vocal was out of sync or wrong in some other way, e.g. a piano timbre.

(c) This question was aimed at higher grades. This was answered well with able candidates scoring full marks. Some candidates set the threshold too low, so the hi-hats were triggering the gate too =2. A common problem was not gating bar 18 (misinterpreting 12-18), followed by gating the whole piano part = 2. Approximately 10%-20% of candidates did not attempt this question at all.

(d) When developing the exam paper, this question was intended to differentiate lower-mid grades with a simple copy and paste with slight delay to create double tracking. However, the question seemed one of the hardest in the paper with full marks very rare because candidates failed to delay/pitchshift/process the copy of the lead vocal; just copying the vocal exactly to another track would just add more level and not sound like a separate vocal. The most common mark was some unsuccessful attempt at backing vocals, e.g. making the lead vox louder presumably by copy and pasting to another track and not delaying/pitchshifting (1) + reverb on correct phrases (2) =3. It was rare to hear a central lead vocal distinguishable from separate backing vocals opposite panned.

(e) This question worked as expected at differentiating across all grades. The most common mark was mono delay (1) + crochets (1) = 2. More successful candidates applied a HPF for a further 2 marks. Candidates found it hardest to be brave with the feedback and turn it up high enough to fill the gap before the chorus.

(f) The stems are deliberately mastered at wildly varying volumes to ensure that the candidate needed to listen (rather than look at fader positions) to earn credit. The best candidates used their ears to balance all five parts achieved full marks. Most candidates had a tendency to leave the bass too quiet.

(g) A great deal of candidates did not take care with the ends of the tracks cutting tails or long silences, a familiar trend in coursework too. Too commonly, the MIDI scratch vocal was a bar out of sync.

Question 6

Many candidates chose to word process this longer answer question.

Advance Information was given for this question. There were cases where candidates wrote a whole page about compression and scored 1 mark for "reduces dynamic range" because they were not applying their revision to the specific scenario. Other than that, the AI seems not to have affected the quality of the answers.

Bass guitar pedals were used as the stimulus, rather than a DAW plug-in, because it's unlikely that candidates would have used these particular models which were adapted for the question anyway. Therefore, no candidates are advantaged or disadvantaged depending on what DAW they use. In this question, all the controls should have been familiar (or candidates could make reasonable judgments) because they have DAW equivalents. Candidates are expected to apply their knowledge to an unfamiliar diagram/picture and extrapolate how it would sound.

This question was designed to differentiate across all the grades, including A*. E grade students tended to score 3-5 marks. Only A* students showed an intuitive understanding and scored more than 15 marks.

Though not bunched for all candidates, many candidates scored between 8-12 with the maximum of 5 AO3 marks, then a few AO4 marks, most commonly overdrive isn't good for funk and wah is good for funk, and descriptions of the EQ making the bass muddy etc.

Candidates sometimes presented their answers in a table showing AO3 and AO4. This added an extra layer of work for the candidate as they tried to predict (mostly unsuccessfully) what the difference is between AO3 and AO4. Candidates would be better off not to trouble themselves with this and just enjoy showing their knowledge and evaluation without labelling it AO3 and AO4.

In general, candidates found this question quite hard as they struggled to link the knob on the pedal to what it actually did; so often candidates wrote in very vague terms. There were still some really good responses though, especially when they knew how the wah worked which gave candidates access to another 5 or so marks lifting them into the top band. Overall, EQ was the best answered, followed by overdrive, followed by compression, followed by wah which was least successful.

Candidates who scored highest applied knowledge to the pedals and evaluated how they would interact with each other in the signal chain.

A frequent candidate error with the overdrive pedal was a confusion between gain and level controls with many writing that the level controlled the amount of the effect applied rather than being the output level. This rendered a lot of this paragraph hard to credit.

Several students wasted time and space by writing lengthy introductions without any creditable content or restating previous points in conclusion paragraphs. Candidates are reminded to keep their responses concise and factual.

The most successful candidates were precise with their use of technical vocabulary and were able to demonstrate an impressive depth of knowledge, often receiving a lot of credit for a single, well-constructed sentence.