Examiners' Report/
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6MT04 Principal Examiner's Report to Centres 2018

All questions reflected a full range of responses. Paper totals commonly ranged from 20 to over 70 reflecting a well-judged assessment. Examiners thought that the paper was fair, revealing clearly the candidate's ability level.

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, often giving very general answers, or confused answers using technical vocabulary in contradictory sentences. Some centres/candidates were relying solely on the past papers for their exam prep and, as a result of not developing the pupils wider DAW skills, couldn't adapt to variations in questioning, often relying on answers from previous exams that didn't answer this year's questions.

Candidates should be reminded not to give answers that contradict themselves for the same question, or a string of guesses. Contradicting answers wont be credited in any question. For example, in 2(c)(i) some candidates, for the y-axis, wrote "dB / Hz"; although dB is correct there is a wrong answer present too.

This year, as usual, some students do not provide correct bounces so they could not access all of the marks because the work cannot be fully assessed. Examples include: not soloing the track, leaving the metronome on or effects on for tasks 1 and 2; and most commonly only bouncing three bars of vocals so level change could not be assessed.

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 were damaged by the biro used to write the candidate details.
- Some were damaged in the post, so please wrap them carefully.
- Sometimes exams officers did not put the CDs in with the papers, or sent them separately to a different address.
- Please don't put sticky labels on the CDs because they damage the fragile CD drives in laptops with which this paper is marked.
- Two centre's technicians muddled up the files on the CD: although the CD was correctly labelled in pen, it had the wrong candidate's work on it. Teachers/technicians must take care that the work on the CD is the candidate's work.

Computers must not have access to the internet, any other network or previously saved files. Refer to the "Administrative Support Guide" on the Edexcel website. There were instances of where candidates had inadvertently submitted music from previous exam series (usually the MIDI part) proving to Edexcel that their exam computers were not secure.

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 few students who were clearly good technologists, scoring high throughout the paper, did not have the musical understanding to approach (c) in the same way. Such candidates should be encouraged to use the technology to aid them in answering pitch and rhythm questions.

(a) Most candidates answered the quantise value correctly.

(b) Some wrong answers here, perhaps highlighting the students' lack of musical performance experience.

(c) This question was designed so that the bars varied in difficulty providing a well differentiated question achieving the full range of available marks. One bar was given as an example. Because the rhythm was derived from bar 22 over these bars, candidates could use bar 22 to help them complete the other bars.
There were some perfect answers showing good musical understanding. There were many rhythms that had incorrect grouping, but these were still credited. Ambiguous minim rests were the main issue for bar 20 which should have gained more correct answers.

(d) This question tested candidates on hearing subtle differences in delay in the stereo field. While the majority could hear the correct settings for, note value and feedback, about half did not identify the low pass filter cutoff frequency. Part (ii) was aimed at A-A* candidates so only the best candidates could correctly explain that the stereo width was created by a slightly offset delay time.

(e) This question was aimed at A-A* candidates. Subsequently, most students received 0 marks for a vague response discussing the general effect reverb creates; or incorrectly talking about envelopes or reverb pre-delay time. Some candidates, who didn't know what a pre-fade aux send is, were able to be credited 1 mark for describing what they heard: the chords getting closer. Only the best candidates could describe the process of how the fading reverb effect was created using a pre-fade aux send.

Question 2

(a) Candidates often achieved full marks for the pitch. Sometimes ambiguous drawing lead to missed marks. As in previous years, some students missed the final note completely. Most candidates identified the correct note with pitch bend.

(b) This question was designed so that candidates had to distinguish tremolo from pitch bend. The question differentiated as intended because weaker candidates described pitch bend instead. The most common mark was for 1/16 tremolo rate. Vague responses such as "depth quite high" weren't credited so that the better candidates scored higher marks with precise wave/depth/phase values.

(c) This question differentiated well across the ability range. The timbre was designed with a particularly striking EQ. The mark scheme was designed with wide enough ranges to allow reasonable answers and to cater for any inaccuracy in drawing. Most candidates correctly labelled the axes whereas stronger candidates could be further credited for using their aural skills to discern and correctly draw the EQ curves.
Most students drew some form of low shelf often achieving 3 marks, though there were a fair number of low shelf cuts and a few bell curve boosts. The most common error was the cutoff being too low, only boosting the sub-bass/rumble region.

The LPF was reasonably well answered with many candidates getting at least 2 of the marks. Sometimes the slope was too shallow, sometimes the cutoff too high. Most who got it wrong drew a high shelf cut instead of a LPF.
Only the best candidates correctly labelled the cutoff frequency at -3dB; most candidates incorrectly labelled it at 0dB where the slope began.
There were some unsuccessful attempts to this question, most commonly waveforms rather than EQ.

Question 3

(a) A data finding question aimed at E grade candidates which the vast majority answered correctly. A few did not give a velocity value but incorrectly gave the pitch of the note or a time reference instead.

(b) Candidates needed to assign the correct sound to the MIDI rhythm. Most candidates did well on this, especially the crash cymbal. Common mistakes were swapping the kick for the closed hi-hat. On the rare occasion that candidates had dragged a part out of time, this made it hard work for the examiner to credit any correct parts! This task was particularly good at differentiating students who not only understood the underlying technology, but also practical contextualisation of the music as a whole.

(c) This question worked well at differentiating across the whole ability range of the candidates, testing candidates' ability to edit a new melody out of existing audio. Because the question was worth 8 marks, it allowed candidates the time to experiment to find the best solution.
This question was well tackled by most of the students given the complexity of the task. I was pleasantly surprised that most students achieved a positive outcome from their attempts at re-sampling the vocals. Most students got at least the pitch and rhythm marks but many would struggle with at least one element of the editing of the samples, be it pitch bending artefacts in the reverb tails, or just cutting off the reverb tails. More limited candidates could still score 1 mark for an unsuccessful attempt such as copy as pasting audio material from the vocal introduction.

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. For both options, 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 further credit for deeper understanding and explanation.

Lengthy, meandering answers with little or repetitive content failed to secure high marks. Some concise but technical answers where only half of the dotty lines were filled scored full marks. 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.

Some candidates use this question to write about a topic that they have memorised from revision but don't receive credit if it doesn't answer the question. For example in 4(a), I saw a technically accurate two page essay about analogue tape recorders and electromagnetism. It scored no marks because there was no information about the sound quality of analogue tape. The knowledge wasn't applied to the question; it was merely recalled insolation.

Well labelled graphs and diagrams could add significantly to the marks. Candidates should not feel restricted to prose when a labelled diagram would illustrate the points better. In particular in 4(a), contrasting digital/analogue waveform graphs were a welcome sight in essays.

Both options were about equally popular. Whichever option was taken, mark totals were holistically on par with candidates who chose the other topic. Over the years, statistical research using Wright maps show that either option yields the same mark according to candidate ability. The mark schemes are designed with equality of option in mind.

(a) This question highlighted that analogue technologies are still relevant in modern productions and their advantages can be utilised by combining the best of analogue and digital. Candidates should be aware that in the professional environment, analogue technologies are still used and not archaic or don't work very well!

This question was in two halves: describing the difference between analogue and digital sound quality, and explaining how digital editing is preferred over analogue. Candidates who answered both parts of the question could score well.

Many candidates veered off on a tangent, recalling information that they had revised but was not relevant. There were several lengthy discussions about how tape delay works which were not credit worthy because it was not answering the question. Other tangents included lengthy discussions about processing (chamber reverb etc), not editing.

A small but significant number of candidates were confused by the age of analogue technology; only referring to single track 1950s tape. They wrote lengthy essays about 1950s editing and single mic recording, ignoring that the question was about analogue technology in a contemporary production.

Among candidates that had answered the question, less able candidates could still be credited by listing the main features of analogue tape such as a warm tone, hiss and needing to physically cut up the tape so any editing wasn't undoable. The more successful candidates were able to explain why analogue and digital sounded different, commenting on sample rate, bit depth for digital; and tape saturation, wow and flutter and tape speed for analogue.

Some candidates wrote several pages where the first paragraph was credited, but then there was no further new information: the first paragraph was just re-worded several times, yielding a low mark.

(b) The photographs for this question provided an opportunity for candidates to apply their knowledge to familiar leads that they use in their coursework. The layout of the pictures resulted in mostly well-organised and clear answers. Merely identifying the features would limit credit.

Even the least able candidates were able to accurately name the leads and give a practical use. However the MIDI lead was often incorrectly guessed.

Candidates should be as specific as possible when giving technical information about the leads. The most successful candidates were able to name each lead, give a use, and explain its technical features. Candidates who explained how a balanced signal eradicates noise and that MIDI cables sent data rather than audio scored high marks.

Question 5

This question had a range of editing, processing and effects-based tasks to cater for a wide range of student ability. Although all questions differentiated across the grade range, they were targeted at different ability levels. Questions (a) & (b) were targeted at E/D candidates, (c) was targeted at B/C candidates, (d) was aimed at the A* candidates, and (e) and (f) 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. Otherwise full credit may not be given because the processing that the question asks for may not be clearly audible.

(a) As we have seen in previous years, it is clear that most candidates have mastered automated panning with headphones worn correctly. However, there are still examples of careless mistakes like an automated panning effect that slowly moves across the stereo field. In some cases, candidates panned another part, often the bass, to a static position in the stereo field as well as or instead of panning the chords.

(b) This question was well-answered by the majority of candidates: the hiss audible at the beginning, end and at 0:40 was successfully gated. Some candidates chose gate settings with a long hold or release time which left some noise in around 0:40, or set the threshold so the gate 'chattered'. It was rare for a candidate to make no attempt at this question, and thus the wide majority gained some credit. If the drums were out of sync, this question could not normally be fully assessed because the drums masked the hiss at the beginning and at 0:40; such candidates scored a maximum of 1. This highlights the importance of reading the stem import instructions throughout the paper carefully.

(c) This question required candidates to listen to the EQ on a phrase of music, and then match that EQ in a later phrase. The best candidates listened carefully to the example and matched the HPF and cut off scoring three marks. Often the filter cutoff did not match the example, or sometimes the volume level didn't match the rest of the vocal part which limited credit to two marks. Some weaker candidates performed some kind of EQ but it wasn't HPF so scored one mark.

(d) This question required candidates to apply the technical theory they discussed as part of question 1(e). The intention was for candidates to keep the volume of the wet signal constant whilst fading out the dry. The audio was designed such that it was easy for examiners to assess: the attack of the chords was very short and clicked so successful answers meant that this click audibly faded out. There were some whole centres where no candidates attempted this question beyond just adding a static reverb for one mark. This showed that some centres aren't properly prepared for the more advanced music technology tasks. Some candidates changed the dry and wet balance at the end, e.g. increasing the wet amount, scoring 2. Successful approaches where the dry signal faded out and the wet stayed constant scored 3 marks. Unusually some candidates that didn't score on 1(e) still managed to score full marks on this question, perhaps using an insert and automating the dry signal within the insert.

(e) 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 that used their ears to balance all four parts achieved full marks. The most common issue this year was that candidates did not bring the bass part up enough in the mix. In most popular music styles, the drums and vocals should be the most forward in the mix.

(f) As in previous years for this paper when a MIDI file was provided, a significant minority of candidates did not follow the instruction in the question as to where the drums should start, and thus scored 1 mark for the drums being out of sync with the rest of the track. There is still a significant trend, as in the coursework units, of candidates cutting off the reverb tail. In this paper some candidates who were well credited for adding a pre-fade reverb shift in 5(d) negated that credit by cutting off the reverb tail. Some candidates bounced from the beginning of bar 1 so left more than a second at the beginning.

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