

Please check the examination details below before entering your candidate information

Candidate surname				Other names			
Centre Number				Candidate Number			

Pearson Edexcel Level 3 GCE

Friday 23 May 2025

Morning (Time: 1 hour 45 minutes plus 10 minutes setting up time)

Paper reference **8MT0/41**

Music Technology

Advanced Subsidiary

COMPONENT 4: Producing and Analysing

You must have: Figure 1 for Question 6 (enclosed), 2025 Pearson audio/MIDI files, headphones or monitor speakers, digital audio workstation (DAW) and MIDI keyboard.

Total Marks

Setting up time

- Open a new project in your DAW using 16 bit/44.1 kHz sample rate.
- Save the project as '**comp4_your candidate number**' (e.g. **comp4_1234**) in the folder designated by your centre.
- Set the metronome to **150 bpm**.
- Import 'bass.wav' to a new track in your DAW, aligned with the beginning of bar 1.
- Ensure that the bass is audible and begins at beat 1 of bar 2. Ensure the bass plays in time with the metronome during the first 4 bars.
- You must not open the paper until instructed to do so by the invigilator.

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
– *there may be more space than you need.*
- Save your audio files for Questions 2, 3, 4 and 5 within the 1 hour 45 minutes examination time.
- You must ensure that the left and right earpieces of your headphones are worn correctly.
- Access to a calculator or calculator software is not permitted.
- Access to the internet or local network is not permitted.

Information

- The total mark for this paper is 84.
- The marks for **each** question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over ►

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SECTION A

Answer ALL questions. Write your answers in the spaces provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

Question 1 is about the bass part.

- 1 (a) (i) The bass is a combination of picked electric bass and a synth sound.

Identify the synth sound used.

(1)

- ☐ A Detuned sawtooth
☐ B Sine sub bass
☐ C Square wave
☐ D Wobble bass

- (ii) Complete the following sentence by selecting the **two** most appropriate terms.

(2)

Many plug-in instruments use to imitate
acoustic instruments. Synthesiser plug-ins are often modelled on classic
..... synthesisers from the 1970s.

analogue

compressors

condensers

cut-off

microphone

samples

- (b) State **three** advantages of using MIDI bass.

(3)

- 1
2
3



(c) The table below shows the grid editor for the bass part in bar 14.

Position	MIDI channel	Note	Velocity	Length
14 1 1 1	16	A1	127	0 0 1 0
14 1 3 1	16	A1	87	0 0 1 0
14 2 1 1	16	A1	87	0 0 1 0
14 2 3 1	16	A1	87	0 0 1 0
14 3 1 1	16	A1	127	0 0 1 0
14 3 3 1	16	A1	87	0 0 1 0
14 4 1 1	16	A1	87	0 0 1 0
14 4 3 1	16	A1	87	0 0 1 0

(i) State the editing technique used to give the note positions shown. (1)

(ii) Explain why the velocity values have been chosen. (2)

(Total for Question 1 = 9 marks)

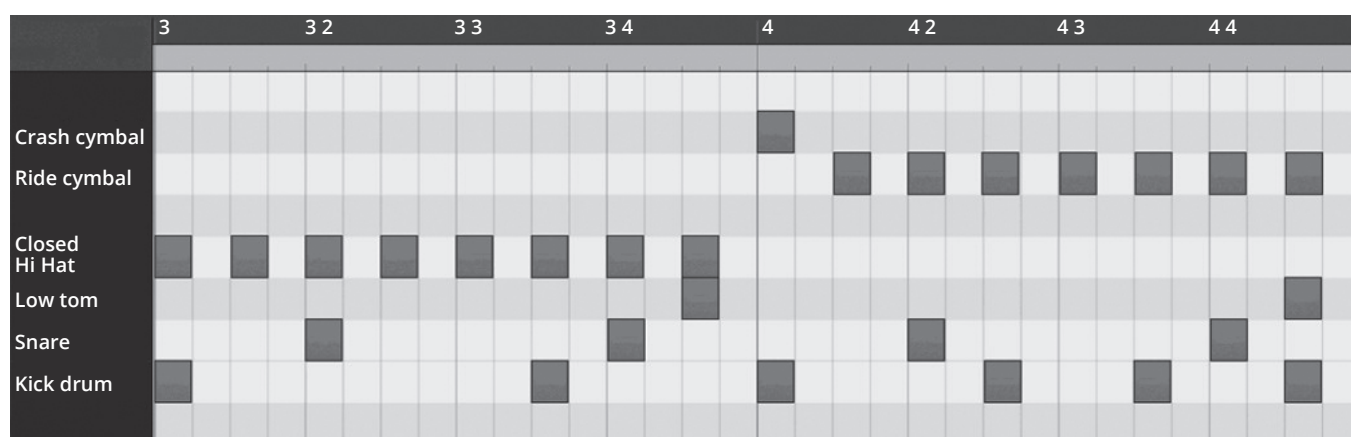
Question 2 is about the drums.

2 Import 'drums.mid' to a new track in your DAW and select an acoustic drum kit. Align the part so that the first note is at the start of bar 2.

- (a) The drum sounds have been assigned to the wrong MIDI notes. The correct sounds for the drums in bars 3 and 4 are shown in the editor window below.

Assign the correct drums to the MIDI notes for the whole song.

(6)



Bounce/export the completed drum part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q2_your candidate number' (e.g. q2_1234).

(b) Give **four** reasons why producers often assign each drum sound to a separate audio channel in the mixer.

(4)

1

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(Total for Question 2 = 10 marks)

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Question 3 is about the guitar part.

3 Import 'guitar.wav' to a new track in your DAW. The beginning of this audio track should be aligned with the start of bar 1. The part begins just before the start of bar 2.

(a) The guitar part has some noise at the beginning and end.

(i) State **one** reason for the noise at the beginning.

(1)

(ii) Remove the noise at the beginning using suitable editing tools.

(3)

(iii) Create a smooth fade on the last note so the noise is reduced.

(3)

Bounce/export the completed guitar part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q3_ your candidate number' (e.g. q3_1234).



(b) The guitar part was recorded using an amplifier and a dynamic microphone with a cardioid polar response.

(i) Give **one** benefit of using a microphone instead of DI.

(1)

(ii) State why a dynamic microphone is most suitable for a guitar amplifier.

(1)

(iii) State which direction a cardioid microphone picks up sound from.

(1)

(iv) State **two** methods that could have been used to create the slight overdrive sound on the guitar.

(2)

1

2

(Total for Question 3 = 12 marks)

Question 4 is about the vocal part.

4 Import 'vocals.wav' to a new track in your DAW. The beginning of this audio track should be aligned with the start of bar 1. The part begins in bar 5.

- (a) (i) Identify the note length that is closest to the delay time on the vocals in bars 5–20.

(1)

☐ **A** 1/16

☐ **B** 1/8

☐ **C** 1/4

☐ **D** 1/2

- (ii) State the delay time in milliseconds.

(1)

- (b) A gate has been used on the vocals.

- (i) Describe what a gate does.

(2)

- (ii) The vocal track has some headphone spill in-between the singing. State why the headphone spill is intermittent.

(1)

- (iii) Remove the unwanted spill from the vocal track. Ensure the delay is not cut off.

(4)

Bounce/export the completed vocal part as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q4_ your candidate number' (e.g. q4_1234).



(c) The stacked vocals starting in bar 22 were recorded by a single singer.

(i) State the recording technique used.

(1)

(ii) Describe how monitoring would be best set up for a singer when recording stacked vocals.

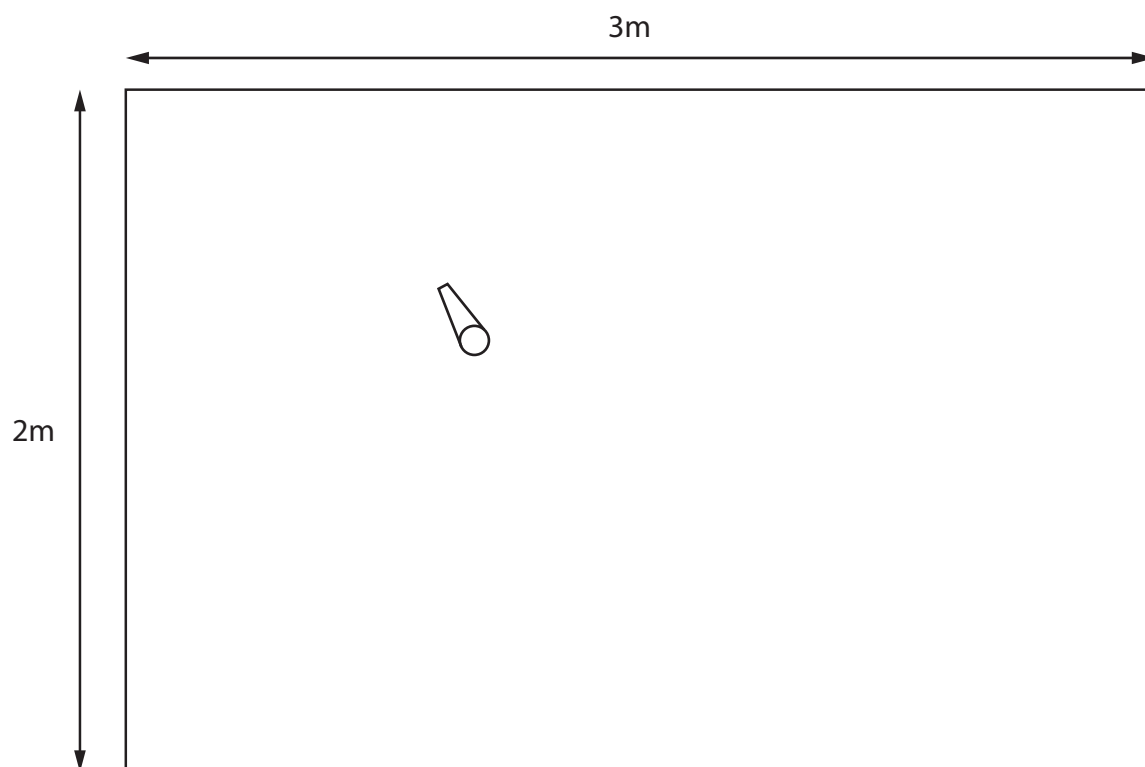
(5)



(d) An alternative method of recording stacked vocals would be to capture four vocalists simultaneously with a single cardioid condenser microphone.

- (i) Using the floor plan below, draw four crosses where you would position the four vocalists.

(2)



- (ii) Describe what adjustments you would make if one of the vocalists is much taller than the others.

(2)

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(Total for Question 4 = 19 marks)

- 5 You should now have the following four tracks in your DAW: bass, drums, guitar and vocal.

Follow the instructions below to produce a final stereo mix.

- (a) Automate the vocal panning in bars 18–20.
- In bar 18, pan the word 'here' hard left.
 - In bar 19, pan the words 'and you're moving very' hard right.
 - Pan the vocal central on the word 'near' at the start of bar 20.
 - Ensure the panning remains central in all other parts of the song.
- (3)
- (b) Listen to the flanger on the guitar in bars 36–37. Recreate a similar flanger on the guitar from bar 38 to the end.
- Choose a preset with a similar sound to bars 36–37.
 - The flanger must be stereo.
 - Ensure the flanger is not present elsewhere in the song.
- (3)
- (c) Add delay to the vocal in bar 31.
- The delay must match the delay in bar 23.
- (3)
- (d) Apply a filter to the bass in bars 8–13.
- The filter characteristics should match the bass filtering in bars 6–7.
- (3)
- (e) Balance the mix.
- (3)
- (f) Produce a final stereo mix.
- Ensure the mix output is at as high a level as possible.
 - It should be free from distortion.
 - Do not limit or compress the mix output.
 - Ensure the beginning and the end of the mix are not cut off.
 - Ensure silences at the beginning and end do not exceed one second.
- (3)

Bounce/export the completed final mix as a single 16 bit/44.1 kHz stereo .wav file to the designated folder on your computer.

Name it 'q5_ your candidate number' (e.g. q5_ 1234).

(Total for Question 5 = 18 marks)

TOTAL FOR SECTION A = 68 MARKS



SECTION B

Answer Question 6. Write your answer in the space provided.

- 6** Figure 1 shows a microphone placement for Freddie Mercury, the lead singer from Queen.

Evaluate the recording techniques used for the vocal, including the studio environment.

(16)

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(Total for Question 6 = 16 marks)

TOTAL FOR SECTION B = 16 MARKS
TOTAL FOR PAPER = 84 MARKS



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