



# NCFE Level 3 Applied General Certificate in Music Technology (601/6779/8)

Past Paper (Written)

Friday 11 March 2022

9.00 am–11.00 am

Time allowed: 2 hours

## Learner instructions

- Use black or blue ink.
- Answer **all** questions.
- Read each question carefully.
- Write your responses in the spaces provided.
- All of the work you submit **must** be your own.

## Learner information

- The marks available for each question are shown in brackets.
- The maximum mark for this paper is 80.
- You may use a calculator.

## Resources

- Headphones.
- Individual workstation with listening capabilities.
- Audio files:
  - Audio File Section 1
  - Audio File Section 2
  - Audio File Section 3
  - Audio File Section 4.

| To be completed by the examiner | Mark |
|---------------------------------|------|
| Section 1                       |      |
| Section 2                       |      |
| Section 3                       |      |
| Section 4                       |      |
| Section 5                       |      |
| Section 6                       |      |
| TOTAL MARK                      |      |

Please complete the details below clearly and in BLOCK CAPITALS.

Learner name \_\_\_\_\_

Centre name \_\_\_\_\_

Learner number  Centre number

**Do not turn over until the invigilator tells you to do so.**

## Section 1

This section has a possible 10 marks.

We recommend that you spend 15 minutes on this section.

Questions in this section relate to the audio file labelled '**Audio File Section 1**'.

- 1 Between 00:20s and 00:29s of **Audio File Section 1**, the synthesiser melody has been manipulated using a MIDI controller.

Explain **two** ways in which the sound is being changed.

[4 marks]

1

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- 2 **Audio File Section 1** was created on a DAW. The composer decided to use an existing template when starting the project.

Explain **one** advantage of using a template when starting a new project.

[2 marks]

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3 A hardware synthesiser can be heard from 00:29s of **Audio File Section 1**.

Which DAW track type would be most suitable for programming the melody for the hardware synthesiser?

[1 mark]

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4 Describe how **one** DAW arranging feature has been used to alter the music between 00:49s and 01:03s of **Audio File Section 1**.

[2 marks]

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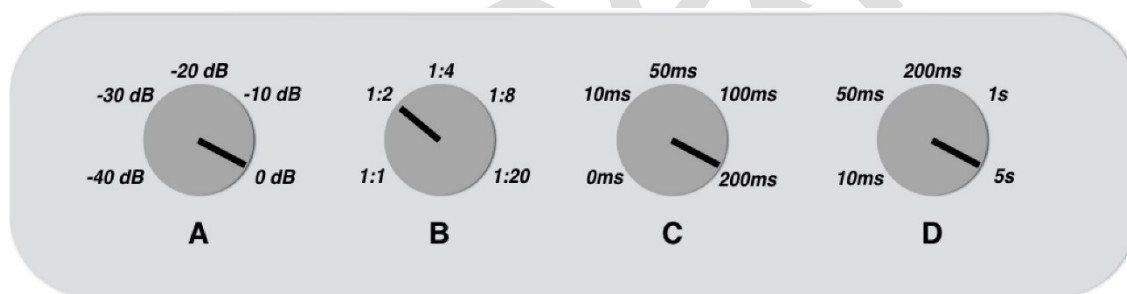


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**Figure 1**

**Figure 1** shows controls commonly found on a compressor plug-in.

Which control (**A**, **B**, **C** or **D**) is used to adjust the threshold?

[1 mark]

Answer \_\_\_\_\_

## Section 2

This section has a possible 10 marks.

We recommend that you spend 15 minutes on this section.

Questions in this section relate to the audio file labelled '**Audio File Section 2**'.

- 6** Identify **one** musical term used to describe the musical structure from 00:06s to the end of **Audio File Section 2**. [1 mark]

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- 7** Describe **two** musical features of the melody played by the brass instruments between 00:34s and 00:38s of **Audio File Section 2**. [2 marks]

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- 8** Many people are now listening to music via streaming services rather than physical formats.
- Explain **one** way that artists can benefit from this change in the way that music is consumed. [2 marks]

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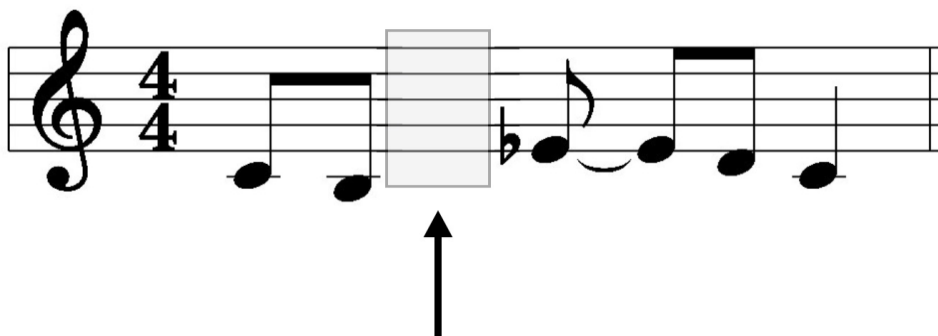
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- 9 **Figure 2** shows the piano melody heard between 00:22s and 00:23s of **Audio File Section 2**. One note which is audible in the part has been omitted from the notation.

Add the correct pitch and rhythm value for the missing note. Use the space shown by the arrow in **Figure 2**.



**Figure 2**

[2 marks]

- 10 Which term best describes the rhythm of the melody heard between 00:02s and 00:06s of **Audio File Section 2**?

[1 mark]

- A Accent
- B Staccato
- C Syncopation
- D Triplet

Answer \_\_\_\_\_

- 11 You have been asked to remix **Audio File Section 2** in an EDM (electronic dance music) style.

Describe **two** musical elements you would change to make the music typical of EDM.

[2 marks]

1 \_\_\_\_\_

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2 \_\_\_\_\_

\_\_\_\_\_

### Section 3

This section has a possible 10 marks.

We recommend that you spend 15 minutes on this section.

Questions in this section relate to the audio file labelled 'Audio File Section 3'.

- 12** The Flaming Fretboards are planning a multi-track recording session. They want a suitable audio interface. They plan to work with an acoustic drummer, guitarist, bassist and saxophonist. They would like to record the entire band together at the same time.

There are four audio interfaces available. They are listed below, showing the number of inputs and outputs each has.

Which audio interface specification (**A**, **B**, **C** or **D**) is most appropriate for the band's needs?

[1 mark]

- A** 2 in/2 out
- B** 3 in/2 out
- C** 4 in/3 out
- D** 24 in/8 out

Answer \_\_\_\_\_

- 13** The Flaming Fretboards are going to use a DI box when recording the bass guitarist.

State **one** function of a DI box in a recording environment.

[1 mark]

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- 14 The Flaming Fretboards have decided to set their audio interface to record at a sample rate of 96kHz.

Explain **one** disadvantage of recording at this sample rate.

[2 marks]

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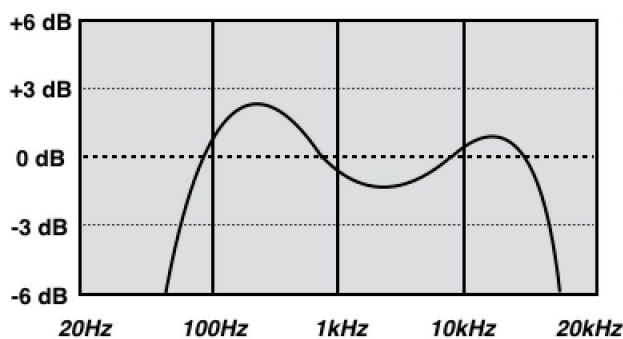
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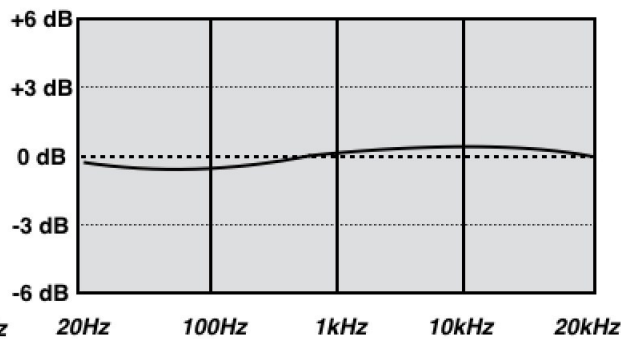
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- 15 **Figure 3** and **Figure 4** show frequency response graphs for two different studio monitors.

Explain why using the monitor represented in **Figure 4** would be advantageous when mixing.



**Figure 3**



**Figure 4**

[2 marks]

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**16** A delay effect plug-in has been applied to the guitar part from the start of **Audio File Section 3**. Between 00:19s and 00:38s the delay effect is modified.

Which **two** delay parameters have been changed?

[2 marks]

Parameter 1 \_\_\_\_\_

Parameter 2 \_\_\_\_\_

**17** At 00:43s of **Audio File Section 3** an editing problem can be heard.

Explain how trimming an audio file can create a problem such as this.

[2 marks]

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\_\_\_\_\_

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## Section 4

This section has a possible 20 marks.

We recommend that you spend 30 minutes on this section.

Questions in this section relate to the audio file labelled '**Audio File Section 4**'.

- 18** A sawtooth wave can be heard at 00:16s of **Audio File Section 4**. The wave has a fundamental frequency of 440Hz.

What is the frequency of the third harmonic of the wave?

[1 mark]

- A** 40Hz  
**B** 146.6Hz  
**C** 880Hz  
**D** 1320Hz

Answer \_\_\_\_\_

- 19** The strings and electronic drums heard between 00:00s and 00:20s in **Audio File Section 4** were recorded at a sample rate of 11025Hz.

Explain how the sample rate setting has altered the string sound.

[2 marks]

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- 20** Describe the application of filtering heard from 00:50s onwards in **Audio File Section 4**.

[2 marks]

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**21** ADSR controls are commonly found on software instruments and plug-ins.

Describe the function of **each** of the following in terms of envelope generation:

- a) Attack
- b) Decay
- c) Release

**[3 marks]**

a) \_\_\_\_\_  
\_\_\_\_\_

b) \_\_\_\_\_  
\_\_\_\_\_

c) \_\_\_\_\_  
\_\_\_\_\_

**22** You wish to imitate the sound of an electric guitar.

You can only use subtractive synthesis or frequency modulation (FM) synthesis.

Assess the suitability of each type of synthesis for creating the required sound.

**[10 marks]**

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**23** A sampled acoustic piano can be heard throughout **Audio File Section 4**.  
Explain why velocity switching is useful for replicating acoustic instruments within a sampler.

**[2 marks]**

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**Please turn over the page for Section 5.**

## Section 5

This section has a possible 20 marks.

We recommend that you spend 30 minutes on this section.

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**24** Which **one** of the following activities relates **only** to the role of a performer? **[1 mark]**

- A** Maintaining and repairing the PA system
- B** Setting gain levels on the mixing desk
- C** Setting up microphones on stage
- D** Updating repertoire on a regular basis

Answer \_\_\_\_\_

**25** The Blistering Beats are an EDM group who perform house music. They are considering touring with an electronic drum machine rather than an acoustic drum kit.

Explain **two** stylistic advantages of performing with an electronic drum machine rather than an acoustic drum kit.

**[4 marks]**

1 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2 \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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**26** The Blistering Beats tour with a DJ who plays music before the band's set.

Describe **one** advantage for a DJ of using CDs rather than other playback sources.

**[2 marks]**

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**Section 5 continues on the next page. Please turn over.**

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**27** The Blistering Beats are planning to buy new live sound equipment for their next tour. They will be performing at small venues that hold no more than 100 people.

These are the band members:

- Ashia – Electric drum machine
- Hari – Keyboard and backing vocals
- Matt – DAW/laptop
- Jenny – Vocals

The venues will supply onstage floor monitor (foldback) systems for the band.

Assess the band's live sound equipment requirements.

[10 marks]

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- 28 The Blistering Beats have been allocated a set time of 30 minutes. The band want to play the maximum possible number of songs in the time allocated.

**Figure 5** shows a list of the songs that they can perform, along with the running time of each song. All of the songs are controlled from a DAW so that the timings for each song will be exact.

What is the maximum number of songs that the band can perform in 30 minutes?

| Song            | Time    |
|-----------------|---------|
| Autumn Beats    | 12 Mins |
| Flying          | 8 Mins  |
| Extra Extra     | 3 Mins  |
| Sync-o-pation   | 9 Mins  |
| Fallen          | 3 Mins  |
| Magazine Hero   | 7 Mins  |
| Dune of Wonder  | 2 Mins  |
| Ever-last       | 8 Mins  |
| United Knighted | 4 Mins  |

**Figure 5**

**[1 mark]**

**Please turn over for the next question.**

29

Figure 6 shows a stage plan, including performer positions, microphones/DI and monitors.

Describe **one** problem highlighted by the stage plan.

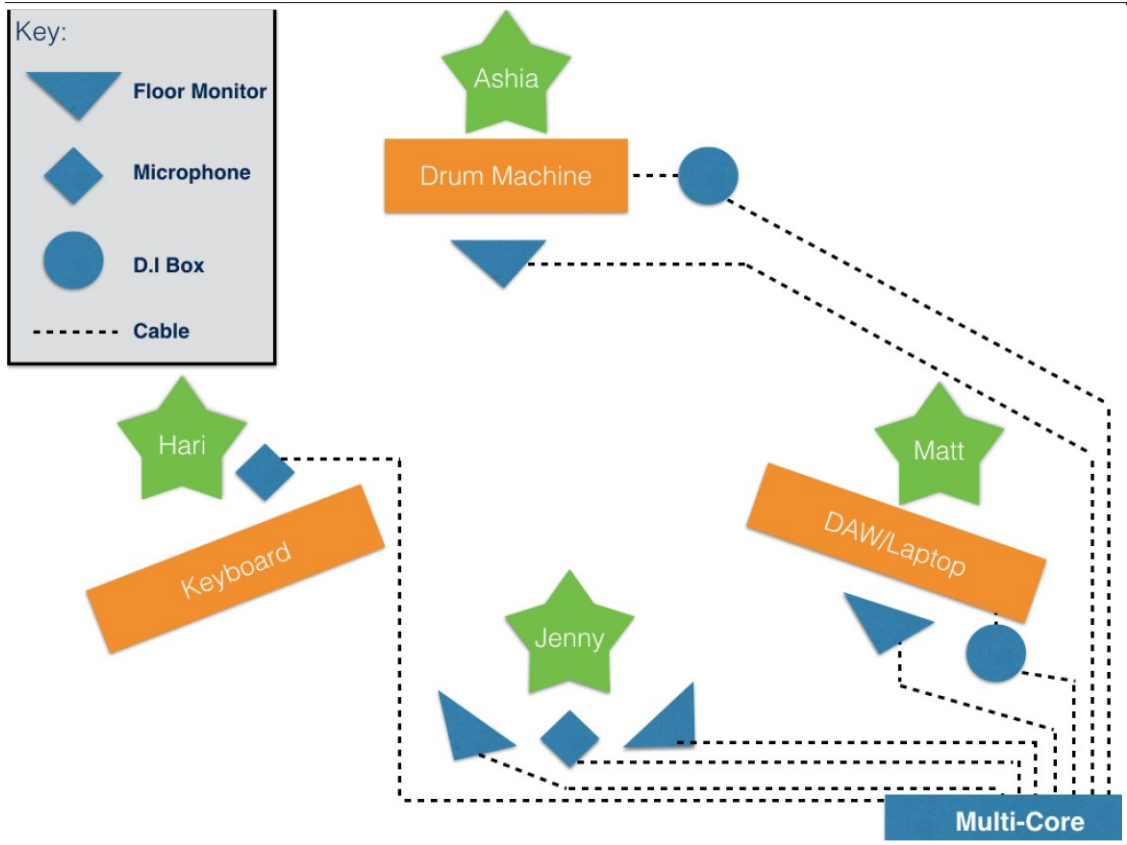


Figure 6

[2 marks]

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## Section 6

This section has a possible 10 marks.

We recommend that you spend 15 minutes on this section.

- 30** HD, High-Def, or High-Quality Streaming is becoming more popular and can offer higher sample rates and bit-depths than CD standards.

Describe **one** potential disadvantage of high definition streaming for users.

[2 marks]

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- 31** The Blistering Beats are preparing to export their music in a digital file format.

Which of these formats is most appropriate for digital music downloading?

[1 mark]

- A** AVI  
**B** MP3  
**C** MP4  
**D** PDF

Answer \_\_\_\_\_

- 32** PRS for Music is an agency formed from the merger of PRS (the Performing Right Society) and MCPS (the Mechanical-Copyright Protection Society).

Identify **two** functions that PRS for Music provides for artists.

[2 marks]

1 \_\_\_\_\_

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2 \_\_\_\_\_

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**33** The Blistering Beats are using different forms of social media to promote their release.

Identify **one** form of social media which the band could use to promote their release **and** describe how this would work.

**[2 marks]**

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34 **Figure 7** shows a poster promoting The Blistering Beats' next performance.

- a) Describe **one** piece of information which is missing from the poster that the audience would need to know.
- b) Explain **one different** piece of information that is **not** on the poster that could be included to attract the audience.



*Figure 7*

[3 marks]

a) \_\_\_\_\_

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b) \_\_\_\_\_

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**This is the end of the external assessment.**

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