NCFE Level 1 Technical Award in Music Technology (601/6777/4)
NCFE Level 2 Technical Award in Music Technology (601/6774/9)

Paper Number: P001408 (Written)

February – March 2022

Mark Scheme

This mark scheme has been written by the Assessment Writer and refined, alongside the relevant questions, by a panel of subject experts through the external assessment writing process and at standardisation meetings.

The purpose of this mark scheme is to give you:

- examples and criteria of the types of response expected from a learner
- information on how individual marks are to be awarded.

Marking guidelines

General guidelines

You must apply the following marking guidelines to all marking undertaken throughout the marking period. This is to ensure fairness to all learners, who must receive the same treatment. You must mark the first learner in exactly the same way as you mark the last.

- The mark scheme must be referred to throughout the marking period and applied consistently. Do not change your approach to marking once you have been standardised.
- Reward learners positively, giving credit for what they have shown rather than penalising for what they might have omitted.
- Utilise the whole mark range and always award full marks when the response merits them.
- Be prepared to award zero marks if the learner's response has no creditworthy material.
- Do not credit irrelevant material that does not answer the question, no matter how impressive the response might be.
- The marks awarded for each response should be clearly and legibly recorded in the grid on the front of the question paper.
- If you are in any doubt about the application of the mark scheme, you must consult with a senior Examiner.

Guidelines for using level of response marking grids

Level of response marking grids have been designed to award a learner's response holistically and should follow a best-fit approach. The grids are broken down into levels, with each level having an associated descriptor indicating the performance at that level. You should determine the level before determining the mark.

When determining a level, you should use a bottom-up approach. If the response meets all the descriptors in the lowest level, you should move to the next one, and so on, until the response matches the level descriptor. Remember to look at the overall quality of the response and reward learners positively rather than focussing on small omissions. If the response covers aspects at different levels, you should use a best-fit approach at this stage, and use the available marks within the level to credit the response appropriately.

When determining a mark, your decision should be based on the quality of the response in relation to the descriptors. Standardisation materials, marked by senior Examiners, will help you with determining a mark. You will be able to use exemplar learner responses to compare to a live response, to decide if it is the same, better or worse.

You are reminded that any indicative content provided is there as a guide, and therefore you must credit any other suitable responses a learner may produce. It is not a requirement either, that learners must cover all of the indicative content to be awarded full marks.

Q	Marking guidance	Total marks

Section 1 **Total for this section: 52 marks**

1	Figure 1 **shows an audio interface. Identify the** two **audio interface features indicated by the arrows.** **A. EQ control** **B. Gain control** **C. MIDI socket** **D. Pan control** **E. Phantom power** C. MIDI socket E. Phantom power	**2**
2	**You are getting ready to record to a DAW from a microphone. You need to make sure that the signal from your microphone is reaching the DAW software.** **Which** one **of the following settings would you check in your DAW software?** **A. Arpeggiator on/off** **B. Audio input** **C. Audio output** **D. Automation on/off** B. Audio input (1)	**1**
3	**MIDI devices such as keyboards and percussion pads allow users to record MIDI information into a DAW.** **State the term used to describe all MIDI devices of this type.** MIDI Controller (1) Controller (1) Do not credit 'MIDI' or 'Instrument' or 'Device' or 'Hardware'	**1**

<table>
<tr>
<td>4</td>
<td>
You are asked to create a new sound using a software synthesiser. The software synthesiser has many controls including filter settings.

Explain two ways that a filter can be used to change the tone of a synthesised sound.

Filter frequency can be raised (1) to make sound brighter (1).
Filter frequency can be reduced (1) to make sound darker (1).
Filter frequency can be swept (1) to give change of tone over time (1).
Filter frequency can be tracked to keys (1) changing tone according to pitch (1).
Filter resonance can be applied (1) to give ‘wah’ effect (1).
High pass filter can be applied (1) to remove LF (1).
Low pass filter can be applied (1) to remove HF (1).

Accept other reasonable responses. To max 4 marks

Second mark must reference description of ‘tone’

Bass / Mid / Treble are not tone descriptors.

Do not double credit same point e.g. remove LF to reduce bass = 1 only

Do not credit ‘increases / decreases frequency’
</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>
You are a producer and want to add reverb to a recording you have made. You can either:

• record the natural reverb of your studio room or
• use a DAW effect plug-in to apply reverb.

Evaluate both of these approaches for adding reverb to a recording.

<table>
<tr><th>Band</th><th>Marks</th><th>Description</th></tr>
<tr><td>3</td><td>5–6</td><td>Very good.

Comprehensive and balanced evaluation of room reverb v DAW plug in considering a range of creative, logistical and technical requirements consistently in context.

Appropriate terminology is used accurately and consistently throughout.

Clear links are drawn between the two</td></tr>
</table>
</td>
<td>6</td>
</tr>
</table>

		approaches with reasonable and appropriate conclusions drawn.
2	3–4	Good. Explanation of room reverb v DAW plug in, which considers some requirements and includes detail of what would be achieved by both methods. Use of terminology is mostly appropriate and generally accurate. Some links may be drawn between the two approaches but may be weak and lacking supported conclusions.
1	1–2	Limited. Description which identifies a narrow range of requirements and may not reference both approaches. Not well balanced. Some use of terminology but may lack appropriateness and accuracy. Where attempts are made to draw links between approaches they lack support and/or relevance.
	0	Insufficient evidence for a mark to be awarded.

Indicative content

Room Reverb
– Involved process – playback and recording.
– Limited to sound of available room space only – or changing furnishings etc.
– Sound may be poor if not acoustically pleasing room.
– May be difficult to avoid unwanted background noise.
+ Natural sound – pleasing if good room, speakers and mic.
+ Potentially good in terms of forcing creative decisions.
– Difficult to edit after recording.
~ Polar pattern choice critical as well as microphone placement/distance.
-Cost of room potentially to hire
+ own room available at no cost

Plug-in
+ Ease of use.
+ Many room models likely available.

	+ Easily editable. + Can be saved and applied elsewhere. – May sound artificial. – May waste time selecting or editing. + cost of plug ins less than room hire - Cost of good plug ins	
6	**When they create music, composers think about how each of the sections in the structure of a song work together.** **State** two **typical features of a** verse **section in a song structure.** Feature a number of times in song (1). Usually precedes chorus (1). Changes on each repeat (1). Often lyrically tells story (1). Accept other reasonable responses. Credit comparative comments – e.g. 'may have different / contrasting texture / instrumentation to chorus' Credit plausible references to lyrical structures – e.g. rhyme scheme, couplets, repeating melody, melodic variations. Credit Dynamic changes / flow / beginning of song Credit exemplification by use of songs	**2**
7	**Instrumentation is a key musical element which often defines style.** **Which** two **of the following would typically be associated with hip-hop?** **A. Bowed bass** **B. Choral vocal** **C. Rapped vocal** **D. Scratching vinyl** **E. Strummed guitar** C. Rapped vocal (1) D. Scratching vinyl (1)	**2**

8	**You are composing a piece of music and have decided to create a new piano part. You could record the part using an audio track or a MIDI track.** **Give** one **possible** disadvantage **of recording the part using an audio track.** Audio not as easy to edit as MIDI (1). Can't change underlying sound of audio (1). Potentially more complex logistically: need to set up microphones to record audio (1). Accept other reasonable responses.e.g. Would need to rerecord if error made (1) **Do not** credit responses which state advantages of MIDI.	**,1**
9	**A rhythmic feature associated with Dance music is '4 to the floor'.** **Explain what the term '4 to the floor' refers to.** Bass drum (1) on each beat of a bar (1). Kick drum (1) on every crotchet (1). 4/4 time (1) with each beat accented (1). Accept other reasonable responses. Credit 'drum pattern' or specific drum / percussion but not 'drum' in isolation.	**2**

10	**Many instrument manufacturers have recently started to sell detailed recreations of drum machines that were first made in the early 1980s.** **Explain** two **reasons why modern recreations of older technology are popular amongst music technologists.** Allows producers access to classic sounds (1), so inspiring compositions (1). Older technology is often more tactile (1) so can be more user friendly (1). Nostalgia for older tech (1) can be creatively useful (1). Older tech is associated with classic songs (1), so desirability is associated with success (1). Can replace worn out older tech (1), so allowing users to continue to work in same way (1). Often cheaper than original tech (1), so financially beneficial (1). Less likely to have servicing issues (1), so can be more reliable than older tech (1). Modern versions sometimes have updated features (1) which are technically or creatively useful (1). Allows artists to create authentic retro styles (1) to attract specific audience (1) Accept other reasonable responses. Note – potentially credit all retro technology – not just drum machines	**4**
11	**Audio interfaces are used to input and output audio signals.** **Identify** two **different types of audio connector** and **state how each is used for** either **input or output.** XLR (1) used for microphone input (1). Jack/phono (1) used for line input (1). XLR (1) used for monitor outputs (1). Jack/phono (1) used for monitor outputs (1). Jack (1) used for headphone outputs (1). Accept other reasonable responses (eg ADAT, SPDIF). Note – credit also ‘Speakon (1) for amplified output (1)’ RCA (for phono) and minijack Credit - ‘instrument’ or examples of Do not credit USB connections.	**4**

<table>
<tr><td>12</td><td>Which one of the following describes how DI is typically used in a recording session?

A. Changes audio to MIDI
B. Changes balanced signals to unbalanced signals
C. Changes condenser microphones to dynamic microphones
D. Changes unbalanced signals to balanced signals

D. Changes unbalanced signals to balanced signals (1).</td><td>1</td></tr>
<tr><td>13</td><td>Using DAW software in a recording studio can cause eye strain.

Describe one measure that could be taken to avoid eye strain when using a DAW.

Users to take regular breaks (1).
Reduce glare (1).
Use appropriate brightness/colour settings on screen (1).
Use appropriate size/resolution settings on screen (1).

Accept other reasonable responses. (e.g)

Keep distance from screen (1)
View screen from appropriate angle (1)</td><td>1</td></tr>
<tr><td>14</td><td>You have been asked by an artist to mix down multi-track recordings for release at short notice. The only way of listening back to music you have is by using headphones.

Evaluate the suitability of only using headphones to mix music.

<table>
<tr><th>Band</th><th>Marks</th><th>Description</th></tr>
<tr><td>3</td><td>7–8</td><td>Very good.

Comprehensive evaluation of a range of equipment, considering a range of creative and technical requirements in context.
Consistent and balanced response.

Appropriate terminology is used accurately and consistently throughout.

Reasonable and appropriate conclusions drawn to support choices.</td></tr>
<tr><td>2</td><td>4–6</td><td>Good.

Explanation of a range of equipment;</td></tr>
</table>
</td><td>8</td></tr>
</table>

		considers some requirements and includes detail of what would be achieved by use in context. Use of terminology is mostly appropriate and generally accurate. Some attempt to draw relevant conclusions but likely to be lacking support/justification for choices.
1	1–3	Limited. Description of basic equipment which identifies a narrow range of requirements and may not consider context. Some use of terminology but may lack appropriateness and accuracy. Conclusions, if drawn, lack support and/or relevance.
	0	Insufficient evidence for a mark to be awarded.

Indicative content

Headphone advantages:

- Mix detail.
- Dependent on release market target audience may be listening predominantly via headphones/earbuds etc.
- Removes room acoustic issues.
- Private listening, does not annoy others (could argue allows you to mix to louder levels without concern for others).
- Can use software options (eg Sonarworks) to make frequency response near-enough flat.
- Consistency; if you move into different mixing environments/locations, the sound from the headphones will remain the same.
- Allow mixing “on the go” on a train for example.
- Open-back headphones can provide a more natural (speaker-like) mixing environment.

Headphone disadvantages:

- Restricted frequency response.
- Exaggeration of stereo field.
- Listening fatigue.
- Higher risk of hearing damage.
- Potentially harder to judge reverberation levels due to anechoic environment (lack of natural room sound).

	• Low frequency sounds (weight) not felt by the body which may make judging bass drum frequency content (or similar) difficult. • Cable could snag on equipment.	
15	**Which** two **of the following are forms of media?** **A. Ambience** **B. Movies** **C. Podcast** **D. Underscore** **E. Voice-over** B. Movies (1) C. Podcast (1)	**2**
16	**Which** two **of the following best describe** physical props **as a method of sound creation for an animated film?** **A. Items used to create digitally sampled sounds** **B. Items used to create sounds for dialogue** **C. Items used to create sounds for foley** **D. Items used to create sounds onstage** **E. Items used to create synthesised sounds** A. Items used to create digitally sampled sounds (1) C. Items used to create sounds for foley (1)	**2**
17	**You have been asked to write music for a movie scene and you are planning your work. The director of the movie has asked for the music to become increasingly dramatic and exciting throughout the scene.** **Describe** one **way that you could use a DAW to make the music more exciting over time.** Increase tempo as music goes on (1). Add layers of instruments (1). Apply effects/dynamics/EQ processing (1). Use volume/pan automation in mix (1). Add sound effects at key points (1). Use of accents/staccato (1). Accept other reasonable responses.	**1**

18	**You have worked with an actor to record a voice-over for a TV advert and have recorded several versions of the voice-over.** **Describe** one **reason that it is useful to record more than one version of a performance.** To allow for the director/actor to select favourite version (1). To allow for comping (1). To allow for doubling and other creative effects (1). Accept other reasonable responses. Credit for descriptions of comping / editing e.g. 'can use parts of different versions' / 'can choose best bits' Credit for artistic decisions 'Can select take with most appropriate feel'	**1**
19	**A variety of types of sound creation are used in TV adverts.** **Explain** one **way that foley may be used to enhance a TV advert.** Sounds match onscreen action (1) to create a sense of reality (1). Sounds used to replace those recorded on set (1) for better audio quality (1). Accept other reasonable responses Credit for exemplification of foley in use e.g. 'the sound of water pouring increases reality (1) of visual water being poured (1)' Do not credit 'adding sounds to make more entertaining / enhance / give x effect' without clear reference to process. Do not credit 'ambience' in isolation – credit if exemplified	**2**

20	**You are recording sounds to be used for ambience during a radio broadcast.** **Explain** two **reasons why creating ambience for a radio broadcast might be more difficult than creating ambience for a movie.** No visual cues to work from (1), so requiring more detailed imagination when creating (1). Sounds may need to be emphasised for dramatic effect (1) thus requiring more complex editing (1). No sense of place given to audience visually (1), so requiring more careful selection of sounds (1). No sense of space given to audience visually (1), so requiring more considered selection of sounds (1). Accept other reasonable responses. Credit references to difficulty of creating sounds for **live** radio broadcast.	**4**
21	**You are adding short sounds to a video game. You can get your sounds from an online effects library or create the sounds yourself.** **Describe** one disadvantage **of getting your sounds from an effects library.** May not include the particular sound you require / limited choice (1). May take a long time to search for a sound (1). May require additional time to edit (1). Less control over outcome of sound (1). Less creatively satisfying (1). May be costly to purchase (1). May require ongoing royalty payment for use (1). May not be original / unique (1) Accept other reasonable responses. Do not credit for 'copyright issues' unless understanding shown (e.g. payment of royalty / licence)	**1**

Section 2 **Total for this section: 8 marks**

22	**Listen to the audio file labelled** Audio File Q22**.** **What editing tool has been applied from 0:37 onwards?** Fade/Fade Out/Volume Fade (1). Credit – Automation(1)	**1**
23	**Listen to the audio file labelled** Audio File Q23**. The composer was asked to create a disco style piece of music.** **Identify** three **musical elements heard in** Audio File Q23 **which are typical of disco music.** Backbeat (1). 4 to the floor bass drum (1). Open hi-hat on off-beats (1). Hand percussion on 16ths notes (1). Complex bassline (1). Clean strummed guitar pattern (1). Extended chords (1). 120bpm tempo (1). Sustained string pattern (1). SynToms (1). Synthesisers (1) Lyric about dancing (1). Vocals (1) Upbeat / Fast tempo (1) Funky / groove (1) Accept correct identification of instruments Vocals Guitar Bass Synth Strings Drums (only one mark for individual drum elements, unless enhanced by description as above e.g. kik + snare + hats = 1 mark. 4 to the floor kik + backbeat snare + open hi-hats on off beat = 3) Percussion Claps Syntoms	**3**

24	**Listen to the audio file labelled** Audio File Q24**.** **Identify the type of instrument which enters at 0:27.** **A. Keyboard** **B. Percussion** **C. Strings** **D. Woodwind** D. Woodwind (1)	**1**
25	**Listen to the audio file labelled** Audio File Q25**.** **A new synthesiser part enters the mix at 0:33.** **Identify where in the stereo field the new synthesiser part at 0:33 is placed.** Hard right (1) Accept also Right (1) 3 o'clock (1) 100% right (1)	**1**
26	**Listen to the audio file labelled** Audio File Q26**.** **Explain** one **way in which the music changes rhythmically between 0:24 and 0:33.** Time signature changes (1) to 6/8 (1).	**2**