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

Paper Number: P000945

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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	**You are setting up a Digital Audio Workstation (DAW). Which** two **of the following peripherals would you** not **typically connect directly via USB?** **A. DI box** **B. Headphones** **C. Keyboard** **D. Memory Stick** **E. Mouse** 1 mark for each correct response to a maximum of 2 marks: A (DI Box) B (Headphone)	**2**

2	**Pressing a key on a MIDI controller keyboard would send which** one **of the following types of data into DAW software?** **A. Audio** **B. Pitch Bend** **C. System Exclusive** **D. Velocity** Award 1 mark for: D. Velocity	**1**

3	**Dynamics processing plug-ins are used in DAW software to control volume.** **State** one **type of dynamics processing plug-in which cuts off audio below a set level.** Award one mark for noise gate Accept also: gate/expander/expansion.	**1**

4	**Software instruments are used in DAW software to provide sounds.** **State which type of software instrument creates sound by assigning recorded audio files to a particular note or to a range of notes.** Award one mark for: sampler.	**1**

5	**You have exported a completed mix from your DAW software as a stereo audio file. When you listen back you can hear that the audio is distorted in louder sections of the mix.** **Explain** one **way of preventing distortion when exporting to a stereo audio file from DAW software.** Award one mark for solution and one mark for expansion, to a maximum of 2 marks. Reduce master output from DAW (1) to suitable level (1). Apply limiter / compressor to output (1) to prevent signals going above 0dB (dBFS) (1). Select normalisation (1) to prevent signals going above 0dB (dBFS) (1).	**2**

6	**Quantisation is a common editing tool in DAW software and is most often used to change the rhythmic starting point of notes.** **Explain** two **reasons for using quantisation when creating music using a DAW.** Award one mark for an explanation and one mark for expansion, up to a maximum of four marks (2x2). To correct inaccurate rhythms (1) to bring music in time (1). To apply swung rhythms (1), giving parts a different feel (1). To apply templates (1), giving multiple parts the same rhythmic timing (1). To put all notes in time (1) with one command to save time (1) To change note length (1) to make notes consistent (1) Accept other reasonable responses.	**4**

7	**Which** two **of the following musical elements are typical of** Soul **music?** **A. 3/4 time signature** **B. 4/4 time signature** **C. 6/8 time signature** **D. Twelve-bar structure** **E. Verse/Chorus structure** 1 mark for each correct response to maximum 2 marks: B. 4/4 time signature E. Verse/Chorus structure	**2**

8	**The electric guitar became popular in the 1950s as Rock 'n' Roll developed.** **State** one **reason why the electric guitar was popular with Rock 'n' Roll musicians.** Award one mark for any of the following, up to a maximum of 1 mark: • could be made louder / amplified / louder than acoustic guitar / amplification available • able to compete in terms of volume with drums / brass / piano • new tones/ new sounds • Distortion/effects available • easier to play fast lines/chord changes • intonation more accurate (than acoustic) • more resilient for gigging • looked futuristic/looked good on stage. Accept other reasonable responses.	**1**

9	**You have been asked to create a composition in a musical style that is not familiar to you.** **Explain** two **ways that you could learn about the style to help you produce the composition effectively.** Award one mark for method and one mark for expansion, up to a maximum of 4 marks (2x2). Listen to examples of songs in the style (1) to analyse key musical elements (1). Research key musical elements of the style (1) and incorporate these into your work (1). Ask artists who work in the style to identify key features (1) to give you a starting point (1). Research how the style has developed over time/from other styles (1) to find a common starting point that you are more familiar with (1). Accept other reasonable responses.	**4**

10	**Look at the chord shown in** Figure 1 **below.** **State** one **musical term that describes this chord.** **Fig. 1: [G – B – D]** Award one mark for: • Major • Triad • Diatonic • G Major • G •	**1**

11 **You are producing a new song and want to include string instrument parts. You can either:**

- **program the string instruments in your DAW using MIDI, or**
- **record real string instruments live using your DAW.**

Evaluate both **of these approaches for adding strings to a piece of music.**

6

Band	Marks	Description
3	5–6	Very good. Comprehensive and balanced evaluation of programming MIDI versus recording, 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 approaches with reasonable and appropriate conclusions drawn.
2	3–4	Good. Explanation of programming MIDI and recording, 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 *Creative* + MIDI = full control of sounds and capacity to edit at every stage. + Live players = may add 'feel' and additional ideas. *Logistical* + MIDI = can be completed within the DAW. + MIDI = can be completed over an extended period of time. – Live Recording = players likely to require scored parts, which would have to be written out—and possibly programmed first—thus extending time requirement. – Players will have to be found and hired. – Cost implications of hiring players. – Cost implications of hiring suitable studio space to record players. *Technical* + MIDI = will allow for precise results, as intended. – MIDI = may require investment in good string sampler patches. – MIDI = will require good programming skills to make realistic. + MIDI = can create parts which are not performable in real life, such as complex chords and notes beyond the range of the real recorded instruments. + Live Recording = possibly easier to capture ensemble than to program. – Live Recording = may require investment in additional equipment or studio time. *Context* Understanding of purpose. Learners should appreciate use of musicians as part of process as distinct from entirely programmed material. Learners should appreciate specific issues in regards to strings in terms of programming and recording (ie strings tend to be acoustic so mics and room are likely to be required; articulations and tuning can be hard to replicate in programmed parts).	

12	**Health and safety assessment is very important in a studio environment, to avoid injury to yourself or others. In many studios the focus of attention is on DAW workstations which incorporate computer display screens.** **Which** two **of the following are the most common risks from using computer display screens for long periods of time?** **A. Backache** **B. Concussion** **C. Electrocution** **D. Eye strain** **E. Hearing loss** Award one mark for each correct response to maximum 2 marks: A. Backache D. Eye strain	**2**

13	**You are recording a bass guitar in a studio, using a DI box, computer, peripherals and DAW software.** **State** two additional **items of music technology equipment that will be required to make the recording.** Award one mark for any of the following, up to a maximum of 2 marks: • jack-to-jack lead / jack lead • XLR-to-XLR lead / XLR lead • USB lead / Firewire lead • Power Cable • audio interface • mixer / mixing desk • speakers / monitors • headphones. Accept other reasonable responses.	**2**

14	**Audio interfaces are often used to input microphone signals to a DAW.** **Identify** one **feature of an audio interface that is used to control a microphone's input level.** **A. ADAT** **B. Gain** **C. MIDI** **D. Plug-in** Award one mark for: B. Gain	**1**

15	**Vocalists often choose to overdub their part rather than record at the same time as other musicians.** **Describe** one **benefit of a vocalist overdubbing their part onto a recording.** Award one mark for any of the following, up to a maximum of 1 mark: • allows for cleaner recording / avoids spill • allows for clearer monitoring • allows vocalist to relax/get in mood/warm up/be under less pressure/concentrate • allows vocalist to try a variety of ideas to develop feel/increase accuracy/pitch accurately • allows vocalist to produce multiple takes/for comping/for layering. • Easier to fix mistakes Accept other reasonable responses.	**1**

16	**You have been employed as a studio engineer and have been asked to set up monitoring.** **Describe** three **ways that monitoring is used in a studio.** Award one mark for any of the following, up to a maximum of 3 marks: • for performers to listen (whilst recording) • check input levels / gain / check for distortion / check peaks • check output levels • to supply performers with a headphone mix • for producers and engineers to listen (whilst recording) • to supply a producer with a mix over control room speakers • to check takes after recording • to listen to reference material in preparation for mixing • to listen whilst editing / detailed listening • to mix / check balance / check effects • to check mixes on different speakers. • to playback for artists in control room Accept other reasonable responses.	**3**

17	**EQ is used in the majority of recordings and mixes.** **Explain** two **ways that a High Pass Filter (HPF) might be used during mixing.** Award one mark for method and 1 mark for expansion, up to a maximum of 4 marks (2x2). To remove unwanted recorded low frequency sounds (1) to give mix more clarity (1). To make low frequency sounds less muddy (1) improving coherence (1). To reduce low frequency peaks (1) giving increased dynamic range/more headroom (1). To treat effects returns (1) to improve clarity of reverbs/delays (1). Filter frequency can be swept (1) to create dynamic effects/builds or to add interest (1). HF clarity boosted (1) by removal of LF (1) Accept other reasonable responses.	**4**

18	**Give examples of** different **ways that underscore and voice-over could be used in TV adverts and for video games.** Award one mark for any of the following, up to a maximum of 4 marks (2x2). *TV adverts.* • Underscore – to set tone or mood/align with nature of product/form hook to tie in with product/memorable tune to associate with product /give sense of time or place/create theme. • Voice over – to talk about product / message *Video games.* • Underscore – to set mood/to add tension/draw attention to onscreen action / atmosphere • Voice Over – to provide narrative/commentary/exposition/instructions/dialogue Award other reasonable responses and exemplifications.	**4**

19	**Foley is used in many movie productions.** **Which one of the following statements** best **describes foley as a type of sound creation?** **A. Sounds performed to make music** **B. Sounds performed to match actions** **C. Sounds recorded by actors on set** **D. Sounds recorded from effects libraries** Award one mark for: B. Sounds performed to match actions	**1**

20	**An actor has recorded dialogue in character as a space creature for an animation; however, the director thinks that the result is still too recognisable as the actor's own voice.** **Describe** one **way that digital sample manipulation could be used to make an actor's voice sound less human.** Award one mark for any of the following to max 1 mark. • sampling could be used to playback at a lower or higher pitch / alter pitch • modulate pitch with vibrato / LFO • sampling could be used to reverse elements of • sampling could be used to adjust timing of dialogue • Lowering sample rate • Lowering bit depth Accept other reasonable responses.	**1**

21 **You are working on the production of a movie and have been asked to capture environmental sounds for use as background ambience. You will need to record high quality sounds at various locations outside.**

Evaluate any issues you might face when you make the recordings and **evaluate the recording equipment you would need to solve these issues.**

8

Band	Marks	Description
3	7–8	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.
2	4–6	Good. Explanation of a range of equipment; 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

Equipment

- Portable recorder/laptop.
- Recording software/DAW.
- Audio interface.
- Power supply.
- Backup storage.
- Microphones (eg condensers, rifles, PZM, contact/polar patterns/sensitivity).
- Headphones.
- Stands.
- Cables.
- Wind sock.
- Flight cases.

Issues

- Power.
- Portability.
- Uncontrolled environment/changes (requirement for fast takes).
- Accessibility of locations.
- Personnel
- Mic placement.
- Weather.
- Unwanted sounds.
- Health & Safety

Conclusions

- Portable equipment = (–) potential sacrifice in quality (+) more accessibility.
- Unwanted sounds = access to appropriate mics/consideration of placement.
- Weather/need for change of locations to capture required sounds = easily portable/packable kit.
- Playback = requires accuracy to avoid need to undertake further location recording sessions.
- Backup storage – to avoid corruption in event of power failure/equipment damage.

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

22	**Listen to the audio file labelled** Audio File Q22**.** **Identify the type of instrument which enters at 0:22.** **A. Brass** **B. Keyboard** **C. Percussion** **D. Strings** Award one mark for: C. Percussion	**1**

23	**Listen to the audio file labelled** Audio File Q23**. A guitar part is heard for the first time between 0:04 and 0:07. The part has been copied and pasted to build up the arrangement.** **State how many** more **times you can hear the** same **guitar part during the rest of the piece of music.** Award one mark for: 4 (times)	**1**

24	**Listen to the audio file labelled Audio File Q24.** **The string part starts at 0:00. Identify** three **effects which have been applied to the string part between 0:27 and 0:41.** Award one mark for any of the following to a maximum of 3 marks: • distortion/overdrive • delay/echo • phaser/flanger/chorus/modulation. • EQ/filter	**3**

25	**Listen to the audio file labelled Audio File Q25.** **Describe the audio editing which has been applied to the drum sounds between 0:19 and 0:42.** Award one mark for: reversed / reverse / played backwards	**1**

26	**Listen to the audio file labelled Audio File Q26.** **Identify** two **ways that the balance of sounds in the stereo field changes between 0:21 and 0:34.** **A. The female vocal moves from centre to extreme left** **B. The female vocal moves from extreme left to centre** **C. The female vocal moves from extreme right to centre** **D. A choir enters on the extreme left** **E. A choir enters on the extreme right** Award one mark for each, to a maximum of 2 marks: C. The female vocal moves from extreme right to centre E. A choir enters on the extreme right	**2**