



Pearson
Edexcel

Mark Scheme (Results)

Summer 2023

Pearson Edexcel GCE
Music Technology (9MT0)
Paper 03: Listening and Analysing

Edexcel and BTEC Qualifications

Edexcel and BTEC qualifications are awarded by Pearson, the UK's largest awarding body. We provide a wide range of qualifications including academic, vocational, occupational and specific programmes for employers. For further information visit our qualifications websites at www.edexcel.com or www.btec.co.uk. Alternatively, you can get in touch with us using the details on our contact us page at www.edexcel.com/contactus.

Pearson: helping people progress, everywhere

Pearson aspires to be the world's leading learning company. Our aim is to help everyone progress in their lives through education. We believe in every kind of learning, for all kinds of people, wherever they are in the world. We've been involved in education for over 150 years, and by working across 70 countries, in 100 languages, we have built an international reputation for our commitment to high standards and raising achievement through innovation in education. Find out more about how we can help you and your students at: www.pearson.com/uk

Summer 2023

Question Paper Log Number 74002

Publications Code 9MT0_03_2306_MS

All the material in this publication is copyright

© Pearson Education Ltd 2023

General Marking Guidance

- All candidates must receive the same treatment. Examiners must mark the first candidate in exactly the same way as they mark the last.
- Mark schemes should be applied positively. Candidates must be rewarded for what they have shown they can do rather than penalised for omissions.
- Examiners should mark according to the mark scheme not according to their perception of where the grade boundaries may lie.
- There is no ceiling on achievement. All marks on the mark scheme should be used appropriately.
- All the marks on the mark scheme are designed to be awarded. Examiners should always award full marks if deserved, i.e. if the answer matches the mark scheme. Examiners should also be prepared to award zero marks if the candidate's response is not worthy of credit according to the mark scheme.
- Where some judgement is required, mark schemes will provide the principles by which marks will be awarded and exemplification may be limited.
- When examiners are in doubt regarding the application of the mark scheme to a candidate's response, the team leader must be consulted.
- Crossed out work should be marked UNLESS the candidate has replaced it with an alternative response.

Pearson Education Limited. Registered company number 872828
with its registered office at 80 Strand, London, WC2R 0RL, United Kingdom

1. Goo Goo Dolls: *Black Balloon*

Question Number	Answer	Mark
1a TYPE 1	<ul style="list-style-type: none"> • Chorus • Tremolo 	(2)

Question Number	Answer	Mark
1b TYPE 1	Any one of: <ul style="list-style-type: none"> • De-esser • Dynamic EQ <u>focused on high mids</u> • Notch filter <u>on high mids</u> • EQ the reverb <u>to remove high mids/high frequencies</u> • Resonance suppressor plug-in (e.g. Soothe/Gullfoss) 	(1)

Question Number	Answer	Mark
1c i TYPE 1	<ul style="list-style-type: none"> • Plosives/pops/blasts of air hitting microphone 	(1)

Question Number	Answer	Mark
1c ii TYPE 1	Any two of: <ul style="list-style-type: none"> • Pop shield/pop filter • Change mic angle/mic off-axis • Mic further away • Use high pass filter/HPF 	(2)

Question Number	Answer	Mark
1d TYPE 1	Any four of: <ul style="list-style-type: none"> • Condenser mic • Mono capture • Close mic/less than 40cm away/less than 16 inches away • Close to sound hole/with proximity • Cardioid/directional mic • Short reverb/room reverb/ambience/natural reverb/relatively dry • Panned slightly right <u>at start</u>/centre panned <u>at start</u> • Pan moves when vocal enters • Double-tracked <u>later</u> • Hard/opposite pan used on double-tracked parts/later on • Volume louder <u>at start</u>/volume louder than electric guitars • Volume then reduces/ducks below the vocal • Peaks controlled/compression adds sustain/compression with high threshold/high ratio/natural sounding compression/not squashed (not heavy compression/reduced dynamic range) 	(4)

2. Lipps Inc.: Funkytown

Question Number	Answer	Mark
2a i TYPE 1	Dry signal muted/changes to 100% wet/dry signal reduced (not wet increases)	(1)

Question Number	Answer	Mark
2a ii TYPE 1	Any two of: <ul style="list-style-type: none"> • Adjust dry control / mute dry signal (not wet increases) • Use a pre-fade send • Move the section of audio to a new track with the 100% wet reverb already inserted 	(2)

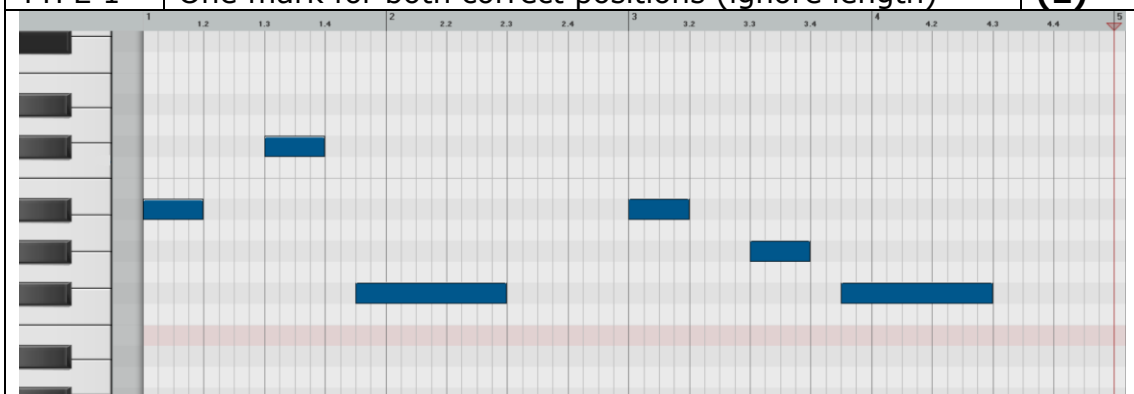
Question Number	Answer	Mark
2b TYPE 1	Any three of: <ul style="list-style-type: none"> • Fast/short attack • No obvious decay • Max/high sustain (don't allow a time-based description) • Short/fast release • Gate/envelope bypassed 	(3)

Question Number	Answer	Mark
2c TYPE 1	Any four of: <ul style="list-style-type: none"> • Voice input/vocal through mic (must have some reference to a vocal signal or track) • Voice is modulator • Voice input used in sidechain • Carrier signal from synth/in vocoder • Synth/instrument is the carrier/triggered by voice input • Press a key on the synth at the same time as singing/instrument plays back MIDI • Synth/instrument sound is filtered by the voice/modulator • Vocal-like/robotic/synthetic qualities • Vocoder re-pitches vocal/gives a fixed pitch • Vocalist can stick to a single note or speak the phrases • Uses a number of frequency bands • Higher intelligibility with more bands • High pass/high (mid) boost on modulator for better intelligibility • Better intelligibility with a more harmonically rich synth/carrier signal <p>Award 0 for any reference to a talk box</p> <p>Accept other reasonable responses</p>	(4)

3. Nelly Furtado: *Do It*

Question Number	Answer	Mark
3a TYPE 4	C 1/8 All other distractors would result in incorrect rhythms	(1)

Question Number	Answer	Mark
3b TYPE 1	One mark for both correct pitches in correct note order One mark for both correct positions (ignore length)	(2)



Question Number	Answer	Mark
3c TYPE 1	Any two of: <ul style="list-style-type: none"> • Sampled/sequenced • Long/wet/stereo reverb • Gated • Accent/high velocity/loud in mix • Layered • Heavily compressed/compressed for punch/consistency/limiter • Saturated/distorted/clipped 	(2)

Question Number	Answer	Mark
3d TYPE 1	Any three of: <ul style="list-style-type: none"> • Beepy sound/chiptune • Noisy/distorted/grainy sample • Like bit-crusher/digital distortion effects • Bit depth is reduced/limited (not bitrate) • All notes the same volume/limited dynamic range • Sounds generated from oscillators/noise • Limited resolution in the different levels of the sampled/digital signal • Only 256 possible amplitude levels/stepping in amplitude values • Levels are quantised to their nearest possible value/quantise error/quantise noise • Noise most evident at ends of notes/on release • Digital/wavetable synthesis used • Short sequences/trackers/quantised notes/limited polyphony • Sample and hold 	(3)

Question Number	Answer	Mark
3e TYPE 1	And two of: <ul style="list-style-type: none">• Stuttering/rhythmic effect• One word is sampled• Triggered by MIDI/keyboard• Short release/gated/isn't one-shot• Word plays back with differing lengths• <u>Fixed</u> velocity• Quantised	(2)

4. The Band: *The Weight*

Question Number	Answer	Mark
4a TYPE 1	Any six of: <ul style="list-style-type: none"> • More tracks • More layered vocals • Less/smaller reverb • Fewer spacey/psychedelic effects • Brighter EQ • More de-essing • <u>Heavier</u> compression/less dynamic range • Recorded closer to mic/more proximity • Recorded in drier/dead room/booth • More likely to be overdubbed/recorded separately from band • Less spill (as tracks are more isolated) • Lead vocal likely to be more centre panned/not panned • Vocal layers less polarised in stereo field/left and right elements more balanced • Double tracking <u>in specific sections</u> more common (e.g. chorus) • Double tracking more likely done in post-production (e.g. using multiple takes; sample delay; ADT) • Changes of pan in sections more common • More takes possible • Comping/copy and paste of sections/editing <u>audio</u> easier • Sampling/chopping up vocal parts • Pitch/autotune/rhythm correction/auto harmonisers • More use of digital/automated/convolution/emulation/plug-in <u>effects/processors</u> • Less noise/easier to remove unwanted noises/noise reduction/more noise gating 	(6)

Question Number	Answer	Mark				
4b TYPE 1	<p>One mark is awarded for each point (max. 2), with a further mark for an explanation of each of the two points (max. 2). Don't credit points in italics twice.</p> <p>Answers might include:</p> <table border="1" data-bbox="384 387 1254 1357"> <thead> <tr> <th data-bbox="384 387 754 432">Point (AO3)</th> <th data-bbox="754 387 1254 432">Explanation (AO4)</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 432 754 1357"> <ul style="list-style-type: none"> • Low pass/LPF/high cut/noise reduction filter/denoiser/adaptive filter • High/high-mid boost • Mid cut/smile curve/loudness curve • Mid/side EQ • Low boost • High pass/HPF/rumble filter • Notch filter/band cut • Narrow band boost </td> <td data-bbox="754 432 1254 1357"> <ul style="list-style-type: none"> • To reduce hiss (not 'noise') • High cut-off/<i>be careful not to affect instruments</i> • Brightens mix/adds clarity • <i>Counteracts missing frequencies in original mix</i> • To make mix less muddy • More contemporary sound • To EQ centre/side instruments separately/ • Makes bass guitar/kick drum/whole mix fuller • <i>Counteracts missing frequencies in original mix</i> • Removes unwanted sub-bass frequencies/rumble/below <i>hum/50-60Hz</i> • Set at <u>very</u> low frequency/<i>be careful not to affect bass instruments</i> • Reduce <i>hum/50-60Hz</i>/specific resonances • To bring out certain instruments(s) the mix </td> </tr> </tbody> </table> <p>Accept other reasonable responses</p>	Point (AO3)	Explanation (AO4)	<ul style="list-style-type: none"> • Low pass/LPF/high cut/noise reduction filter/denoiser/adaptive filter • High/high-mid boost • Mid cut/smile curve/loudness curve • Mid/side EQ • Low boost • High pass/HPF/rumble filter • Notch filter/band cut • Narrow band boost 	<ul style="list-style-type: none"> • To reduce hiss (not 'noise') • High cut-off/<i>be careful not to affect instruments</i> • Brightens mix/adds clarity • <i>Counteracts missing frequencies in original mix</i> • To make mix less muddy • More contemporary sound • To EQ centre/side instruments separately/ • Makes bass guitar/kick drum/whole mix fuller • <i>Counteracts missing frequencies in original mix</i> • Removes unwanted sub-bass frequencies/rumble/below <i>hum/50-60Hz</i> • Set at <u>very</u> low frequency/<i>be careful not to affect bass instruments</i> • Reduce <i>hum/50-60Hz</i>/specific resonances • To bring out certain instruments(s) the mix 	(4)
Point (AO3)	Explanation (AO4)					
<ul style="list-style-type: none"> • Low pass/LPF/high cut/noise reduction filter/denoiser/adaptive filter • High/high-mid boost • Mid cut/smile curve/loudness curve • Mid/side EQ • Low boost • High pass/HPF/rumble filter • Notch filter/band cut • Narrow band boost 	<ul style="list-style-type: none"> • To reduce hiss (not 'noise') • High cut-off/<i>be careful not to affect instruments</i> • Brightens mix/adds clarity • <i>Counteracts missing frequencies in original mix</i> • To make mix less muddy • More contemporary sound • To EQ centre/side instruments separately/ • Makes bass guitar/kick drum/whole mix fuller • <i>Counteracts missing frequencies in original mix</i> • Removes unwanted sub-bass frequencies/rumble/below <i>hum/50-60Hz</i> • Set at <u>very</u> low frequency/<i>be careful not to affect bass instruments</i> • Reduce <i>hum/50-60Hz</i>/specific resonances • To bring out certain instruments(s) the mix 					

5. Van Halen: *Jump* (1984) and Paul Anka: *Jump* (2005)

Question Number	Answer	Mark						
5 TYPE 1	<p>AO3 (5 marks)/AO4 (10 marks)</p> <p>Marking instructions</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate only AO3 without any AO4 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • Level 1 AO3 performance: 1 mark • Level 2 AO3 performance: 2 marks • Level 3 AO3 performance: 3 marks • Level 4 AO3 performance: 4 marks • Level 5 AO3 performance: 5 marks <p>Indicative content guidance</p> <p>The indicative content below is not prescriptive and candidates are not required to include all of it. Other relevant material not suggested below must also be credited. Relevant points may include:</p> <table border="1" data-bbox="384 869 1353 2042"> <thead> <tr> <th data-bbox="384 869 852 904">AO3</th> <th data-bbox="852 869 1353 904">AO4</th> </tr> </thead> <tbody> <tr> <td colspan="2" data-bbox="384 904 1353 940">Capture, production approach and music style:</td> </tr> <tr> <td data-bbox="384 940 852 2042"> <p>VH:</p> <ul style="list-style-type: none"> • Large format analogue multi-track/tape • Electric & acoustic instruments • Parts recorded in booth/isolation • Close mics • Some vocal parts double-tracked • Drums may have been recorded in a natural acoustic • Drum kit elements have separate microphones • Kick, snare & toms louder than overheads • Track fades out <p>PA:</p> <ul style="list-style-type: none"> • DAW (era)/digital • May have used analogue mixer • All acoustic instruments • Ensemble/sections recorded together </td> <td data-bbox="852 940 1353 2042"> <p>VH:</p> <ul style="list-style-type: none"> • Analogue/tape saturation • Rock/AOR • Some parts dry • More intensive processing on isolated parts • Thickens vocal on (pre) chorus • Adds sustain on drum recordings • Independent processing for each part of the kit • Strong rock foundation • Common on singles for commercial release/not so suitable for live performance <p>PA:</p> <ul style="list-style-type: none"> • More editing possibilities e.g. pitch/rhythm processing • Low noise • For analogue warmth/saturation • Jazz/swing • Natural spill between mics • More human/musical </td> </tr> </tbody> </table>	AO3	AO4	Capture, production approach and music style:		<p>VH:</p> <ul style="list-style-type: none"> • Large format analogue multi-track/tape • Electric & acoustic instruments • Parts recorded in booth/isolation • Close mics • Some vocal parts double-tracked • Drums may have been recorded in a natural acoustic • Drum kit elements have separate microphones • Kick, snare & toms louder than overheads • Track fades out <p>PA:</p> <ul style="list-style-type: none"> • DAW (era)/digital • May have used analogue mixer • All acoustic instruments • Ensemble/sections recorded together 	<p>VH:</p> <ul style="list-style-type: none"> • Analogue/tape saturation • Rock/AOR • Some parts dry • More intensive processing on isolated parts • Thickens vocal on (pre) chorus • Adds sustain on drum recordings • Independent processing for each part of the kit • Strong rock foundation • Common on singles for commercial release/not so suitable for live performance <p>PA:</p> <ul style="list-style-type: none"> • More editing possibilities e.g. pitch/rhythm processing • Low noise • For analogue warmth/saturation • Jazz/swing • Natural spill between mics • More human/musical 	15
AO3	AO4							
Capture, production approach and music style:								
<p>VH:</p> <ul style="list-style-type: none"> • Large format analogue multi-track/tape • Electric & acoustic instruments • Parts recorded in booth/isolation • Close mics • Some vocal parts double-tracked • Drums may have been recorded in a natural acoustic • Drum kit elements have separate microphones • Kick, snare & toms louder than overheads • Track fades out <p>PA:</p> <ul style="list-style-type: none"> • DAW (era)/digital • May have used analogue mixer • All acoustic instruments • Ensemble/sections recorded together 	<p>VH:</p> <ul style="list-style-type: none"> • Analogue/tape saturation • Rock/AOR • Some parts dry • More intensive processing on isolated parts • Thickens vocal on (pre) chorus • Adds sustain on drum recordings • Independent processing for each part of the kit • Strong rock foundation • Common on singles for commercial release/not so suitable for live performance <p>PA:</p> <ul style="list-style-type: none"> • More editing possibilities e.g. pitch/rhythm processing • Low noise • For analogue warmth/saturation • Jazz/swing • Natural spill between mics • More human/musical 							

	<ul style="list-style-type: none"> Recorded in large room/not dead/natural acoustics Spot mics More ambient mics Stereo pairs of mics Drum kit has fewer mics/overhead-focused No fade out Added backing vocals 	<ul style="list-style-type: none"> Wetter recording Spill blends everything together naturally Gives focus to individual instruments Makes the recording appear older than it is Condensers Adds sense of directionality/width Example of stereo pair – X-Y, AB, M/S, ORTF, NOS etc More natural kit balance and blend/typical of jazz Kick less prominent Live performance feel Thicker vocal layers 	
Synthesis			
Synthesis	<p>VH:</p> <ul style="list-style-type: none"> Analogue synthesiser playing chords/lead (Slight) portamento String pad <p>PA:</p> <ul style="list-style-type: none"> No synthesised parts 	<p>VH:</p> <ul style="list-style-type: none"> Playing main riff/hook Sawtooth waves Detuned oscillators/chorus Filter open/no filtering Thickens the sound/brass-like sound Glue effect/adds layer <p>PA:</p> <ul style="list-style-type: none"> Natural sounds/less synthetic 	
Mixing and processing:			
EQ/filtering	<p>VH:</p> <ul style="list-style-type: none"> Bright high hats Bass guitar relatively thin (compared to kick) Snare is punchy in mids Mid boost on guitar solo <p>PA:</p> <ul style="list-style-type: none"> Full LF on double bass and kick drum Bright detail on snare/overheads Piano has low/low-mid cut 	<p>VH:</p> <ul style="list-style-type: none"> Very high 'air' frequencies May have used enhancer Common in 1980s/1990s rock Suggests dynamic mic capture Emphasises attack/weight/'thwack' Helps guitar cut through mix Expressive/vocal-like <p>PA:</p> <ul style="list-style-type: none"> Probably captured with large diaphragm or ribbon mics Suggests condenser mic capture Allows room for other instruments Wide-band/low Q 	

Dynamics	<p>VH:</p> <ul style="list-style-type: none"> • Heavier track compression e.g. kick heavily compressed/vocal compressed • Noise gated drum elements <p>PA:</p> <ul style="list-style-type: none"> • Much lighter track compression on the whole • Double bass needs heavier compression 	<p>VH:</p> <ul style="list-style-type: none"> • Far fewer peaks • Punchy • Narrower dynamic range • Electric instruments/synths/compressed tracks tend to have a more even level • Tightens rhythms/more isolated/limits spill <p>PA:</p> <ul style="list-style-type: none"> • Wider dynamic range on individual tracks • Obvious peaks • Song has high perceived loudness but retains dynamic range of acoustic instrument performance • To remain consistently audible under other tracks • Release can be adjusted to increase sustain • Lack of noise gates in mix means that spill and sustain of drums is heard • E.g. ringing of toms after being struck
	Reverb and delay	<p>VH:</p> <ul style="list-style-type: none"> • Digital/chamber/plate • Delay on synth • Reverb with large pre-delay and/or delay on solo guitar <p>PA:</p> <ul style="list-style-type: none"> • Room/natural reverb (or convolution version of this)

Pan/stereo field	<p>VH:</p> <ul style="list-style-type: none"> • Drum kit stereo image is recreated mainly by panning close mics • Overheads/toms hard panned • Wide sounding/stereo synth • Some opposition panning <p>PA:</p> <ul style="list-style-type: none"> • Instruments panned in opposition <ul style="list-style-type: none"> • Drum kit stereo image comes mainly from overheads • Overheads/toms hard panned (don't credit twice) 	<p>VH:</p> <ul style="list-style-type: none"> • Drum kit elements sound more separated • Larger-than-life tom fills • Fills the stereo field • E.g. guitars and synth • Not as much wide panning/variation in stereo field as PA <p>PA:</p> <ul style="list-style-type: none"> • Piano vs. horn sections/saxes • Simulates the band layout in live performance • 'Dialogue' between different instrument groups • More convincing stereo field <ul style="list-style-type: none"> • Larger-than-life effect (don't credit twice)
Distortion	<p>VH:</p> <ul style="list-style-type: none"> • Overdrive/distortion on guitars <p>PA:</p> <ul style="list-style-type: none"> • May use valve/analogue/tape (or emulation of these) 	<p>VH:</p> <ul style="list-style-type: none"> • Harmonic distortion • Valve/tube • Adds grit • Adds harmonics <p>PA:</p> <ul style="list-style-type: none"> • Subtle/soft clipping/warmth • Retro feel

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–3	<ul style="list-style-type: none"> • Demonstrates limited knowledge and understanding of production techniques used, some of which may be inaccurate or irrelevant (AO3). • Gives limited analysis and deconstruction of production techniques used with little attempt at chains of reasoning (AO4). • Makes limited comparisons between the two recordings, with little or no conclusion (AO4).
Level 2	4–6	<ul style="list-style-type: none"> • Demonstrates some knowledge and understanding of production techniques used, which is occasionally relevant but may include some inaccuracies (AO3). • Gives some analysis and deconstruction of production techniques used with simplistic chains of reasoning (AO4). • Makes some comparisons between the two recordings, reaching unsupported conclusions (AO4).
Level 3	7–9	<ul style="list-style-type: none"> • Demonstrates clear knowledge and understanding of production techniques used, which is mostly relevant and accurate (AO3). • Gives clear analysis and deconstruction of production techniques used, with competent chains of reasoning (AO4). • Makes clear comparisons between the two recordings, reaching partially supported conclusions (AO4).
Level 4	10–12	<ul style="list-style-type: none"> • Demonstrates detailed knowledge and understanding of production techniques used, which is relevant and accurate (AO3). • Gives detailed and accurate analysis and deconstruction of production techniques used, with logical chains of reasoning on occasion (AO4). • Makes detailed comparisons between the two recordings, reaching well supported conclusions (AO4).
Level 5	13–15	<ul style="list-style-type: none"> • Demonstrates sophisticated and accurate knowledge of production techniques used throughout (AO3). • Gives sophisticated and accurate analysis and deconstruction of production techniques used, with logical chains of reasoning throughout (AO4). • Makes detailed comparisons between the two recordings, reaching sophisticated conclusions (AO4).

6. Michael Kiwanuka: *Hero* (2019)

Question Number	Answer	Mark												
6 TYPE 1	<p>A03 (5 marks)/A04 (15 marks)</p> <p>Markers must apply the descriptors in line with the general marking guidance and the qualities outlined in the levels-based mark scheme below. Responses that demonstrate only A03 without any A04 should be awarded marks as follows:</p> <ul style="list-style-type: none"> • Level 1 A03 performance: 1 mark • Level 2 A03 performance: 2 marks • Level 3 A03 performance: 3 marks • Level 4 A03 performance: 4 marks • Level 5 A03 performance: 5 marks <p>Indicative content guidance</p> <p>The indicative content is not prescriptive and candidates are not required to include all of it. Other relevant material may be credited. Relevant points may include:</p> <table border="1"> <thead> <tr> <th>A03 - song specific</th> <th>A04 - song specific</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • Constricted EQ/frequency response • (Vocal) EQ full range later on </td> <td> <ul style="list-style-type: none"> • Lacks HF/heavy on mid frequencies/band pass/muddy • Guitars most affected • <i>Simulates old recording media/analogue technology</i> • <i>Gives contrast with hi-fi parts of a production/between sections</i> • Moves vocal forwards • <i>Gives contrast with lo-fi parts of a production/between sections</i> </td> </tr> <tr> <td> <ul style="list-style-type: none"> • Tape changing speed </td> <td> <ul style="list-style-type: none"> • <i>Wow/flutter/tape stretch/motor wear</i> • Gives pitch modulations • Sounds like cassette tape </td> </tr> <tr> <td> <ul style="list-style-type: none"> • Fret noise/rumble/mouth/performer moving noises </td> <td> <ul style="list-style-type: none"> • Rough and ready/raw approach </td> </tr> <tr> <td> <ul style="list-style-type: none"> • (Soft) clipping/distortion on vocal/acoustic guitar/whole mix • Saturation </td> <td> <ul style="list-style-type: none"> • Driving tape too hard/signal path too hard/use excess gain • <i>Gritty/harsh/adds power/adds sustain</i> • Peaks cause break-up • <i>Tape emulation plug-in</i> • <i>Harmonic/adds harmonics</i> • <i>Simulates old recording media/analogue technology</i> </td> </tr> <tr> <td> <ul style="list-style-type: none"> • Tape dropouts • Tremolo/vibrato </td> <td> <ul style="list-style-type: none"> • Obvious/intrusive degradation </td> </tr> </tbody> </table>	A03 - song specific	A04 - song specific	<ul style="list-style-type: none"> • Constricted EQ/frequency response • (Vocal) EQ full range later on 	<ul style="list-style-type: none"> • Lacks HF/heavy on mid frequencies/band pass/muddy • Guitars most affected • <i>Simulates old recording media/analogue technology</i> • <i>Gives contrast with hi-fi parts of a production/between sections</i> • Moves vocal forwards • <i>Gives contrast with lo-fi parts of a production/between sections</i> 	<ul style="list-style-type: none"> • Tape changing speed 	<ul style="list-style-type: none"> • <i>Wow/flutter/tape stretch/motor wear</i> • Gives pitch modulations • Sounds like cassette tape 	<ul style="list-style-type: none"> • Fret noise/rumble/mouth/performer moving noises 	<ul style="list-style-type: none"> • Rough and ready/raw approach 	<ul style="list-style-type: none"> • (Soft) clipping/distortion on vocal/acoustic guitar/whole mix • Saturation 	<ul style="list-style-type: none"> • Driving tape too hard/signal path too hard/use excess gain • <i>Gritty/harsh/adds power/adds sustain</i> • Peaks cause break-up • <i>Tape emulation plug-in</i> • <i>Harmonic/adds harmonics</i> • <i>Simulates old recording media/analogue technology</i> 	<ul style="list-style-type: none"> • Tape dropouts • Tremolo/vibrato 	<ul style="list-style-type: none"> • Obvious/intrusive degradation 	20
A03 - song specific	A04 - song specific													
<ul style="list-style-type: none"> • Constricted EQ/frequency response • (Vocal) EQ full range later on 	<ul style="list-style-type: none"> • Lacks HF/heavy on mid frequencies/band pass/muddy • Guitars most affected • <i>Simulates old recording media/analogue technology</i> • <i>Gives contrast with hi-fi parts of a production/between sections</i> • Moves vocal forwards • <i>Gives contrast with lo-fi parts of a production/between sections</i> 													
<ul style="list-style-type: none"> • Tape changing speed 	<ul style="list-style-type: none"> • <i>Wow/flutter/tape stretch/motor wear</i> • Gives pitch modulations • Sounds like cassette tape 													
<ul style="list-style-type: none"> • Fret noise/rumble/mouth/performer moving noises 	<ul style="list-style-type: none"> • Rough and ready/raw approach 													
<ul style="list-style-type: none"> • (Soft) clipping/distortion on vocal/acoustic guitar/whole mix • Saturation 	<ul style="list-style-type: none"> • Driving tape too hard/signal path too hard/use excess gain • <i>Gritty/harsh/adds power/adds sustain</i> • Peaks cause break-up • <i>Tape emulation plug-in</i> • <i>Harmonic/adds harmonics</i> • <i>Simulates old recording media/analogue technology</i> 													
<ul style="list-style-type: none"> • Tape dropouts • Tremolo/vibrato 	<ul style="list-style-type: none"> • Obvious/intrusive degradation 													

<ul style="list-style-type: none"> Hiss/ surface noise/crackle 	<ul style="list-style-type: none"> Deliberate degrading tape heads/motors etc <i>Simulates old recording media</i> Hiss sample/lo-fi plug-in <i>Tape emulation plug-in</i> Perhaps using incorrect gain structure on purpose Panned to one side <i>Mimics bounced tracks</i>
<ul style="list-style-type: none"> Spring reverb Long/wet reverb 	<ul style="list-style-type: none"> Murky mid-range/limited HF Mono guitar reverb Ping/bounce/modulation from spring Distant voices Ambience/space/wash Transition effect/freeze Glues parts together
<ul style="list-style-type: none"> Unusual panning Drums panned left 	<ul style="list-style-type: none"> Parts sound very separated Unsettling balance Bass instruments usually central/uncomfortable kick panning <i>Mimics retro mixing techniques/LCR panning/bounced tracks</i>
<ul style="list-style-type: none"> Drums recorded with few mics 	<ul style="list-style-type: none"> Natural balance of drums/processed all together/parts not isolated
<ul style="list-style-type: none"> Ambient drum recording 	<ul style="list-style-type: none"> Removes clarity/less direct sound Natural/room reverb Uses less directional mics/ omni and figure 8 Sense of the recording space
<ul style="list-style-type: none"> Vocal pitch processing 	<ul style="list-style-type: none"> Slowed down/lower Like vinyl or tape playing at wrong speed
<ul style="list-style-type: none"> Guitar <u>hard</u> clipping/heavy distortion/fuzz 	<ul style="list-style-type: none"> Breaks up sound Non-harmonic/digital distortion (not bit-crusher) <i>Gritty/harsh/adds power/adds sustain</i>
<ul style="list-style-type: none"> Tails/tracks cut at end 	<ul style="list-style-type: none"> No fades/trimming Rebellious lo-fi approach
<ul style="list-style-type: none"> Loose timing/tuning Limited number of tracks 	<ul style="list-style-type: none"> Recorded in one take/minimal editing <i>Simulates old recording media/analogue technology</i> Early multi-track recorders had limited tracks

AO4 – impact of the technology

Don't credit points in italics where they have already been awarded in song specific detail

- *Distortion/degradation of signal is normally avoided*
- Lo-fi refers to deliberately degrading an audio signal
- *Simulates old recording media/analogue technology*
- *May use (emulations of) old equipment/recording techniques*
- *Gives contrast with hi-fi parts of a production/between sections*
- Nostalgic/a tribute to earlier, influential artists
- Reaction to sterile/clinical digital production
- DJ scratching/re-recording music to vinyl
- Unwanted noise difficult to avoid in earlier recordings
- Guitar/organ distortion one of the first deliberate ways to degrade an audio signal
- *Gritty/harsh/adds power/adds sustain*
- *Adds harmonics*
- Psychedelic music uses lo-fi techniques
- Tape delay - pleasing distortion/pitch modulation/filtering
- Passing sounds through mechanical processors
- Rotary/Leslie cabinet for swirling, distorted sounds
- *Restricting frequency response*
- *Spring reverb for mid-range, twangy reverb/thunder-like effects when banged*
- Found sound/clips from TV and radio interviews used in experimental music
- Found sound creates ambience/atmosphere
- Punk music production welcomes noise/distortion
- Rap samples have noise intentionally left in
- Taking samples from old/noisy recordings
- Over-compression
- DAW technology made retro production easier to do
- Distortion/telephone effect on vocals
- Fuzz/parallel processing on bass
- Digital distortion/bit-crushing (e.g. on drums)
- Selecting older samplers with bit-depth and sample rate limitations
- Stuttering/imperfections in loops
- High pass on builds/beats in dance music
- Contemporary producers seek a retro feel by using vintage tube technology
- Ribbon microphones for duller/mid-heavy sounds
- Producers simulate limitations in recording and mixing
- *Unusual/polarised panning*
- *Ambient capture of drums*
- Recreating 1980s techniques e.g. FM synthesis, over-use of short samples, tightly quantised drum machine lines and heavy (digital) reverb
- *Emulating vinyl crackle*
- *Tape wear/stretching/wow and flutter*
- Tape/analogue/vinyl warmth

	<ul style="list-style-type: none"> • Analogue synth tuning problems • Recording tracks to tape for saturation • <i>Tape emulation plug-ins</i> • Saturation/tube plug-ins • <i>Adds harmonics/thickens the sound</i> • Using convolution to model retro hardware • Analogue summing of stems/mixing and mastering using analogue outboard • Can create impact/contrast between sections <p>Award valid points that link a song/artist/genre <u>to a specific technology/production approach.</u></p> <p>Award a mark for naming an appropriate old piece of equipment for each retro/lo-fi process.</p> <p>Award a mark for naming an appropriate plug-in used for each retro/lo-fi process.</p>	
--	--	--

Level	Mark	Descriptor
	0	No rewardable material.
Level 1	1–4	<ul style="list-style-type: none"> • Demonstrates limited knowledge and understanding of production techniques/technology used, some of which may be inaccurate or irrelevant (AO3). • Applies limited analysis and deconstruction of production techniques/technology used in the recording with little attempt at chains of reasoning (AO4). • Makes limited connections between the production techniques/technology used in the recording and their wider impact (AO4). • Makes limited evaluative and/or critical judgements about the wider impact of the production techniques/technology used in the recording (AO4).
Level 2	5–8	<ul style="list-style-type: none"> • Demonstrates knowledge and understanding of production techniques/technology used, which are occasionally relevant but may include some inaccuracies (AO3). • Applies some analysis and deconstruction of production techniques/technology used in the recording, with simplistic chains of reasoning (AO4). • Makes some connections between the production techniques/technology used in the recording and their wider impact (AO4). • Makes some evaluative and/or critical judgements about the wider impact of the production techniques/technology used in the recording (AO4).
Level 3	9–12	<ul style="list-style-type: none"> • Demonstrates clear knowledge and understanding of production techniques/technology used, which are mostly relevant and accurate (AO3). • Applies clear analysis and deconstruction of production techniques/technology used in the recording which is mostly detailed, with competent chains of reasoning (AO4). • Makes valid connections between the production techniques/technology used in the recording and their wider impact (AO4). • Makes clear evaluative and critical judgements about the wider impact of the production techniques/technology used in the recording (AO4).
Level 4	13–16	<ul style="list-style-type: none"> • Demonstrates detailed knowledge and understanding of production techniques/technology used, which are relevant and accurate (AO3) • Applies detailed and accurate analysis and deconstruction of production techniques/technology used in the recording, with logical chains of reasoning on occasion (AO4). • Makes detailed and valid connections between the production techniques/technology used in the recording and their wider impact (AO4). • Makes detailed and valid evaluative and critical judgements about the wider impact of the production techniques/technology used in the recording (AO4).

Level	Mark	Descriptor
Level 5	17–20	<ul style="list-style-type: none"> • Demonstrates sophisticated and accurate knowledge and understanding of production techniques/technology used throughout (AO3). • Applies sophisticated and accurate analysis and deconstruction of production techniques/technology used in the recording and logical chains of reasoning throughout (AO4). • Makes sophisticated and valid connections between the production techniques/technology used in the recording and their wider impact (AO4). • Makes sophisticated and valid evaluative and critical judgements about the wider impact of the production techniques/technology used in the recording (AO4).