

2004 Music

Higher – Sound Engineering & Production

Finalised Marking Instructions

SECTION 1

Marks

In this section the questions are related to specific concepts that feature in excerpts of recorded music.

QUESTION 1

Read through the list of features below before hearing the music.

Tick **four** features which are present in the music. You will hear the music **twice** with a pause of ten seconds between playings and a pause of twenty seconds at the end before the next question starts.

- | | | | |
|-------------------------------------|------------|-------------------------------------|---------------------|
| <input type="checkbox"/> | sibilance | <input type="checkbox"/> | repeated sample |
| <input checked="" type="checkbox"/> | saxophone | <input type="checkbox"/> | pitch shifter |
| <input type="checkbox"/> | phasing | <input checked="" type="checkbox"/> | distortion (effect) |
| <input type="checkbox"/> | fade in | <input checked="" type="checkbox"/> | fade out |
| <input checked="" type="checkbox"/> | pitch bend | | |

Here is the music for the first time.

Here is the music for the second time.

Total marks Question 1: (8)

QUESTION 2

Read through the list of features below before hearing the music.

Tick **four** features which are present in the music. You will hear the music **twice** with a pause of ten seconds between playings and a pause of twenty seconds at the end before the next question starts.

- | | | | |
|-------------------------------------|--------------------|-------------------------------------|---|
| <input checked="" type="checkbox"/> | chorus effect | <input checked="" type="checkbox"/> | synthesiser |
| <input type="checkbox"/> | wide dynamic range | <input checked="" type="checkbox"/> | restricted frequency range (lead vocal) |
| <input type="checkbox"/> | repeated delay | <input type="checkbox"/> | female lead vocal |
| <input checked="" type="checkbox"/> | introduction | <input type="checkbox"/> | feedback |
| <input type="checkbox"/> | key change | | |

Here is the music for the first time.

Here is the music for the second time.

Total marks Question 2: (8)

QUESTION 3

Marks

This question is concerned with identifying sound engineering faults.

- (a) (i) Listen to this **solo** vocal track. There are faults in the recording. Tick **two** boxes to identify the faults.

<input type="checkbox"/>	too much delay	<input checked="" type="checkbox"/>	feedback
<input type="checkbox"/>	low levels	<input type="checkbox"/>	wow and flutter
<input checked="" type="checkbox"/>	hum	<input type="checkbox"/>	phase cancellation

Two marks for each correct answer

- (ii) Briefly describe a precaution that could be taken to correct each of these faults.

Turn down loudspeakers/record with microphone in a different room/use headphones in same room/check leads and equipment for earth loops/move microphone away from source of hum/use another room/cut Bass EQ/alter EQ to avoid feedback

Any two answers above – 2 marks each

You are reminded to answer both parts of the question.

Here is the music for the first time.

Here is the music for the second time.

8

- (b) Listen to this recording of an orchestra. The recording has **two** faults. Tick **two** boxes to identify the faults.

<input type="checkbox"/>	sibilance	<input type="checkbox"/>	overload
<input type="checkbox"/>	too much direct sound	<input checked="" type="checkbox"/>	low levels
<input checked="" type="checkbox"/>	hiss	<input type="checkbox"/>	proximity effect

Here is the music for the first time.

Here is the music for the second time.

4

QUESTION 3 (continued)

Marks

(c) Listen to this **solo** vocal track. The recording has **two** faults. Tick **two** boxes to identify the faults.

too much reverberation

sound spillage

popping and blasting

stereo image is too wide

change in frequency range

microphone is positioned too far away

Here is the music for the first time.

Here is the music for the second time.

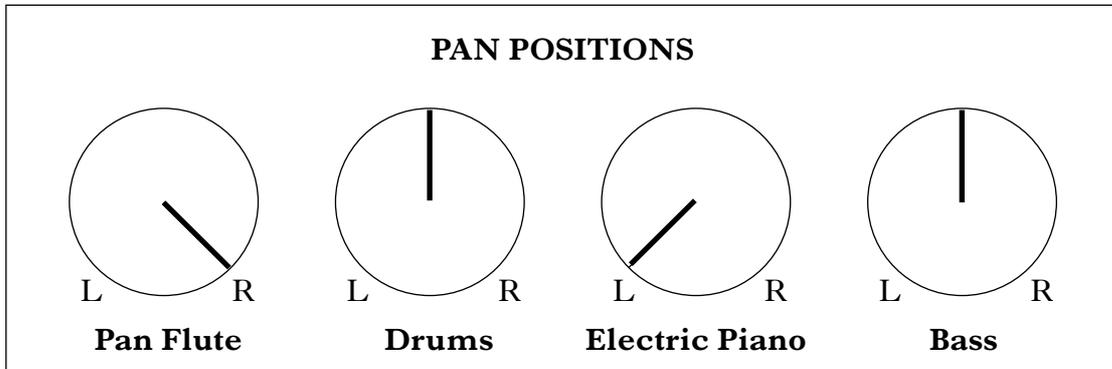
4

Total marks Question 3: (16)

QUESTION 4

Marks

- (a) Listen to this recording of pan flute, drums, electric piano and bass. The instruments have been panned to certain positions in the stereo image. Show where the pan flute, drums and bass are positioned by filling in the diagram of the pan controls for each track. The pan position of the electric piano has been completed as an example. (You will hear the music **once** only.)



Pan positions – 1 mark for each correct answer

Here is the music.

3

- (b) You will now hear another excerpt from the recording. A control, effect or process has been added to **two** instruments. Name the two controls, effects or processes used and the instrument each is applied to.

Control/Effect/Process: **Panning**

Instrument: **Drums**

Control/Effect/Process: **Pitch Shifter or Harmoniser/Delay/Double Tracking**

Instrument: **Pan Flute**

2 marks for the Control/Effect/Process

Here is the music.

1 mark for the Instrument

(You will hear the music **once** only.)

6

Total marks Question 4: (9)

QUESTION 5

Marks

This question is concerned with the use of controls, effects, processes and recording techniques.

- (a) Listen to two excerpts of the same piece of music. The **second** excerpt uses two controls, effects, processes or techniques. Tick **two** boxes to identify the controls, effects, processes or techniques heard in the **second** excerpt.

phasing

distortion

feedback

reverberation

compression

fade in

Here is the first excerpt.

Here is the second excerpt.

4

- (b) Listen to two excerpts of the same piece of music. The **second** excerpt uses two controls, effects, processes or techniques. Tick **two** boxes to identify the controls, effects, processes or techniques heard in the **second** excerpt.

chorus effect

phase cancellation

reverberation

feedback

proximity effect

pitch bend

Here is the first excerpt.

Here is the second excerpt.

4

QUESTION 5 (continued)

Marks

(c) Listen to two excerpts of the same piece of music. The **second** excerpt uses two controls, effects, processes or techniques. Tick **two** boxes to identify the controls, effects, processes or techniques heard in the **second** excerpt.

pitch shifter

gate

enhancer/exciter

low equalization boost

delay

chorus effect

Here is the first excerpt.

Here is the second excerpt.

4

Total marks Question 5: (12)

[END OF SECTION 1]

SECTION 2

Marks

In this section the questions are related to a variety of features that occur in longer excerpts of recorded music.

QUESTION 6

This question is in two parts, (a) and (b).

It concerns **two** versions of the song “Waiting in Vain” recorded by different artists.

You now have **one minute** to read through the whole question.

(a) Listen to two versions of the song recorded by different artists. Compare both recordings and, as you listen, comment on the concepts used under the headings given in [GRID 1].

This grid is for rough work and will not be marked.

Both versions will be played **twice** with a pause of **fifteen** seconds between playings.

After the two playings of the music you will be given **three minutes** to copy/re-arrange your answers in [GRID 2].

Here is excerpt 1 for the first time. **Remember to write in Grid 1.**

Here is excerpt 2 for the first time.

Here is excerpt 1 for the second time.

Here is excerpt 2 for the second time.

You will now have **three minutes** to complete your answers in [GRID 2].

12

[GRID 1]

	Excerpt 1	Excerpt 2
Controls, effects & processes		
Recording/ production techniques		
Other musical features/ instrumentation/ structure		

	Excerpt 1	Excerpt 2
<p>Controls, effects & processes</p>	<p>Different reverb. settings for different instruments. Moderate reverb. on rhythm guitar and vocals. A lesser amount of reverb on drums. A large amount of reverb on lead guitar as solo break. Little reverb on bass.</p> <p>Phasing used on elec. guitar. Tremolo on organ sound. Panning - lead vocal and bass centre, tremolo organ left of centre, phased guitar right/dry guitar left. Solo electric guitar - dry panned right with reverb. left. Pitch bend - elec. guitar solo.</p> <p>Fairly heavy compression on lead vocal, rhythm guitar, drums, bass.</p> <p>Use of High EQ. boost on drums. Gate maybe used on drums. Exciter possibly used.</p>	<p>Different reverb. settings for different instruments. A fair amount of reverb, acoustic guitar. A lot of reverb on lead vocal, drums, backing vocals. Moderate amount of reverb. on brass, strings, keyboards. Little reverb. on bass.</p> <p>Delay used on lead vocal, slight delay on drums. High EQ on drums. Panning - Acoustic guitar panned towards right at beginning, keyboard panned in stereo, lead vocal and bass centre. Other instruments panned across the stereo image.</p> <p>Heavy compression on vocals, and moderate compression on acoustic guitar and bass. Whole mix is probably compressed.</p> <p>Sampled sounds used. Pitch bend on keyboards.</p>
<p>Recording/production techniques</p> <p>Max 8 ticks for each excerpt in top two sections</p>	<p>Mix: lead vocals, elec. Guitar, drums and bass at front of mix.</p> <p>Organ/keyboards slightly further back. Backing vocals further back in mix. Mix is clear well, balanced and bright, particularly drums. Wide frequency range and limited dynamic range. Close microphone techniques used. Overdubbing used. Direct injection.</p> <p>Probably double tracking on lead vocal and delay. Count -in at beginning.</p> <p>Drum clicks at beginning. Excerpt fades out at verse 3.</p>	<p>Mix: Lead vocal and guitars prominent at front of mix. Keyboards, strings, brass backing vocals, slightly further back. Drums further back in mix.</p> <p>Mix is clear, well balanced and bright.</p> <p>Wide frequency range and limited dynamic range.</p> <p>Excerpt fades out at verse 3. Close microphone techniques used. Overdubbing used. Direct injection.</p> <p>At end of chorus/mid 8 there is a noticeable large amount of reverb. Excerpt fades out at verse 3.</p>
<p>Other musical features/instrumentation/structure</p> <p>Max of 4 ticks (2 marks) for each excerpt in this section</p>	<p>Instruments/voices: male lead vocal, backing vocals, organ/keyboards, drums, bass guitar, lead guitar, rhythm guitar.</p> <p>Structure: intro, chorus, verse, verse, chorus, middle eight, solo break, verse. Any 3 sections in correct order for ½ mark.</p> <p>Texture: intro starts with count-in. click then quick roll on drums, with rhythm guitar, organ, bass. Keyboards used in verse and backing vocals in chorus. At middle eight organ sound and drum fills prominent.</p> <p>Solo break features electric guitar. Typical reggae style - bass on the beat, chords off the beat.</p>	<p>Instruments/voices: female lead vocal, female backing vocals, electronic drums, acoustic guitar, bass, keyboard pads incl. vocal pad, strings, brass.</p> <p>Structure: intro., verse, verse, chorus (mid 8)., instrumental link, verse. Any 3 sections in correct order for ½ mark</p> <p>Texture: Intro starts with acoustic guitar, drums, sustained keyboard.</p> <p>Bass and Strings enter at chorus. Brass and backing vocals enter end of chorus (start of Mid 8).</p> <p>Back vocals repeat lead vocal phrase at Mid 8. Instrumental link has acoustic guitar, vocal pad, glockenspiel sound and sampled voices. Reduction in texture at verse 3.</p>

½ mark each to a maximum of 12

QUESTION 6 (continued)

Marks

(b) Listen to the versions once again and, using your notes for (a) above, comment briefly on the main **contrasts/differences** in production between the two versions of the song.

Both versions will be played once more with a pause of **one minute** at the end.

Here is the first excerpt.

Here is the second excerpt.

Contrasts/Differences in production
Both versions have different introductions.
The first excerpt has a male lead vocal, while the second excerpt has a female lead vocal.
The first excerpt has a count-in and drum clicks at the beginning.
The first excerpt has the chorus after the introduction, while the second has a verse after the introduction.
The second excerpt has brass and string sounds. The second excerpt uses an acoustic guitar.
The first excerpt uses phasing. The first excerpt has tremolo effect on the organ.
The second excerpt has a short instrumental link while the first excerpt has a proper solo break.
In the second excerpt the drums are further back in the mix.
The second excerpt uses sampled sounds.
The second excerpt uses a lot more electronic sounds - keyboard pads, drums etc.
The first excerpt uses effects that are often panned to one side.
In the second excerpt the bass only enters at the chorus.
In general the second excerpt has a more complicated texture and sophisticated production.
The first excerpt is in reggae style, while the second is not.

8

2 marks for each correct answer to a maximum of 8

Total marks Question 6: (20)

QUESTION 7

This question is in two parts, (a) and (b).

The question is concerned with the structure and production features of the song “**Say You Love Me**” by **Fleetwood Mac**.

The plan of the song has been laid out with some of the sections already inserted in the table.

There will now be a pause of **two minutes** to allow you to read over the whole question, parts (a) and (b).

(a) The song uses the following sections:

chorus verse introduction solo break coda

Some sections occur more than once.

Insert the missing sections in **COLUMN A** of the table.

(b) The following is a list of production features that occur in the song at different points. Insert each feature **once** in **COLUMN B** of the table, at the section where it **first** occurs. More than one feature can appear in a section. It is suggested that to save time, you need write only what is underlined.

piano

repeated phrase sung only by back up vocals

electric guitar with pitch bend

entry of acoustic guitar

back up vocals sing in harmony with lead vocal

You are reminded that you should attempt both parts of the question.

You will hear the music **three** times.

Here is the music for the first time.

Here is the music for the second time.

Here is the music for the third time.

SONG PLAN

	COLUMN A SECTIONS	COLUMN B FEATURES
	<i>Introduction</i>	<i>Piano Accoustic Guitar</i>
↓ Start of lead vocal	Verse	
↓	<i>Chorus</i>	<i>Back-up vocals</i>
↓ ↓	<i>Verse</i>	
↓	<i>Chorus</i>	
↓	<i>Solo break</i>	<i>Pitch bend</i>

SONG PLAN (continued)



Verse

Chorus

Chorus

Coda

Repeated phase

**1 mark for each section
2 marks for each feature**

Total marks Question 7: (18)

[END OF SECTION 2]

SECTION 3

Marks

In this section the questions are related to the principles and practices of sound engineering and production. There are **no** excerpts of recorded music. Read the questions carefully before answering them.

You have **five minutes** to complete the remaining questions 8, 9 and 10.

A warning tone will sound **two minutes** before the end of the examination.

QUESTION 8

(a) What can be caused by poor channel separation? Tick **one** box.

- sibilance
- crosstalk
- punching-in
- wow and flutter

1

(b) On mixing equipment, what is the difference between controls that are pre-fade and controls that are post-fade?

Controls that are pre-fade are applied before the signal reaches the channel fader, while controls that are post-fade are applied after the signal reaches the channel fader.

2

Total marks Question 8: (3)

QUESTION 9

(a) What is MIDI? Tick **one** box.

- An analogue interface to connect musical instruments to mixing equipment
- A digital interface to connect keyboards to amplifiers
- An analogue interface that allows direct injection
- A digital interface that can control certain musical instruments/sound equipment

1

QUESTION 9 (continued)

Marks

(b) Name two musical instruments or items of equipment that use MIDI.

Electronic keyboard/synthesiser/electric piano; drum machines; electric guitar with MIDI interface; sampler; soundcards; some mixing equipment; multi-track recorders using MTC; breath controller; electronic drumpads; effects; MIDI sequencer

2

QUESTION 10

Total marks Question 9: (3)

(a) In multi-track recording previously recorded tracks are sometimes mixed and re-recorded onto an empty track. Tick **one** box to describe this technique.

feedback

reflection

bouncing

punching-in

1

(b) What is a tuning tone and when might it be used?

A tuning tone is a tone that instruments can be tuned to; It is normally recorded at the beginning of a recording session on a track, and can be used when 2 or more instruments are playing, particularly if using analogue recording equipment which may change speed. It is particularly useful when overdubbing other instruments at later stages in the recording process.

2

Total marks Question 10: (3)

[END OF SECTION 3]

[END OF MARKING INSTRUCTIONS]