SECTION A

Answer ALL questions in both sections .

1. **Justin Timberlake : Sexyback** https://youtu.be/pTBDuLS9Dvc

a. The main vocal is put through a guitar amp simulator. How does this change the vocal timbre and texture. (2)

gives a more gritty, Lo fi feel, aggresive edge, dirty, fuzz, distortion.

b. What performance technique is used on the guitar riff at 2:28 seconds. (1)

1. Tapping 2. tremelo picking 3. **palm muting** 4. sliding

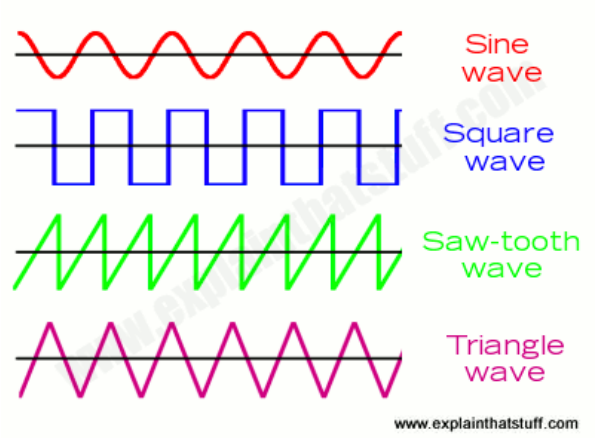
c. The synth bass in this track is routed to the dynamic processing of the kick drum. What is this technique called.

Side chain compression (2)

d. On the outro, a second backing vocal is layered over the first by the same singer. What is this technique called. (1)

Multi tracking or Overdubbing

e. The main riff is based on a square wave . Label these four waveforms. (4)



(Total for question 1= 10 marks)

2. **ABBA : Lay all your Love** https://youtu.be/2seCB54Bv-c

a. This track features live instruments and synthesisers. What techniques could be used for sound capture (3)

close mic, ambient mic, Direct injection/input.

b. Is this song in a major or minor key (1)

MInor (D)

c. What best describes the chorus background vocals.

1. monophonic 2. **homophonic** (2)

d. The end of each verse features a drop created by looping the vocals through a harmoniser set at a semitone lower. How could you recreate this effect with modern technology. (4)

Pitch shift, portamento on sampler. Automated pitch bend on last phrase.

(Total for question 2 = 10 marks)

3. **T Bone Walker : They Call it Stormy Monday** https://youtu.be/VAPDJheC0Jk

a. This track is a Blues. Explain two characteristics that support this. (4)

12 bar format, I-IV-V chords, seventh chords, shuffle rhythm , first line repeated.

b. Explain three problems you could encounter when recording a live ensemble and how you could overcome them. (6)

bleed from one instrument to another-Baffle boards to help prevent bleed. Varied volumes of different instruments- Placement of mic/instruments. Vocals drowned out- Ensure singer nearest mic. No overdubs - ensure band is rehearsed and a good take is captured. Lack of cohesion in performance-ensure everyone can see/hear each other.

(Total for question 3 = 10 marks)

4. **Talk Talk : Life's What you Make It** https://youtu.be/OvMoRVrqx_I

a. The introduction features a Piano riff. Why are two mic's better for recording a piano.

To capture the wide dynamic/frequency range. (2)

b. What is missing from a standard drum kit in this track. (1)

Cymbals, hi hats

c. What effect is added to the guitar part give more sustain. (1)

Distortion

d. This track was recorded in 1986. Name three big changes in music technology during this decade.

Digital recording, MIDI, synthesisers, sequencers, samplers, DAW's.

(6)

(Total for question 4=10 marks)

Total for section A = 40 marks

Section B

Please note: *For the AS Music Technology Component 3 - Listening and Analysing exam, students only need to answer question 5.*

5. The Beatles : Got To Get You Into My Life https://youtu.be/bxhhFOnXs2M

Earth Wind and Fire : Got To Get You Into My Life https://youtu.be/MKskYvTGEHE

Compare the different production and performance techniques used in the two versions.

(15 / 16)

Indicative content guidance: 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:

AO3 (Maximum 5 marks)

Capture

- **Original**
- Recorded with microphones.
- Captured on analogue tape.
- Musicians recorded live.
- Minimum use of effects (reverb, delay)
- Wide frequency range.
- Extensive use of bouncing down.
- **New Version**
- Recorded on 24 track tape.
- Live capture of rhythm section.
- Live vocals and guitar
- Live drums.

Arrangement

- **Original**

- 60's Pop/soul feel.
- Textural changes within instrumentation.
- Verse-chorus structure.
- Dynamic lifts for chorus.
- Pedal on verse.
- **New Version**
- Jazz funk lick on intro.
- Sparse opening.
- More up tempo funk feel.
- Melodic verse bass line.
- Do wop inspired section.
- More complex individual parts.
- Almost twice as long.
- Extended instrumental/vocal sections.

Instrumentation

- **Original**
- Electric guitar.
- Bass.
- Tambourine.
- Organ.
- Brass section.
- Emotional lead vocal.
- Drums and percussion.
- **New Version**
- Use of electric piano.
- Brass section.

- Electric distorted guitar.
- Electric bass.
- Live drums.
- Several vocalists layered.
- Clean funk guitar sound.

Synthesis

- **Original**
- Natural acoustic sounds.
- Wide reverb on vocals.
- **New Version**
- Light distortion on guitar solo.

Effects and processing

- **Original**
- Limited effects.
- Compressed vocals.
- Lead vocal double tracked.
- **New Version**
- Electric piano panned central, guitar panned right on intro.
- Clean guitar panned left.
- Wide stereo field.

A04 (Maximum 10/11 Marks)

Capture

- **Original**
- Live recording of rhythm section.
- Recorded to analogue tape, probably involved some bouncing due to the number of parts.
- Live capture of brass.

- True capture of emotive vocal.
- Capture, the most important component due to large ensemble and limited facilities for overdubs.
- **New Version**
- Recorded onto 24 track tape with overdubs.
- Vocals recorded live.
- Live capture of brass and guitars.
- Bass D.I.'d.

Instrumentation

- **Original**
- Electric guitar.
- Electric bass.
- Live drum kit, percussion.
- Organ for a more soul feel.
- All acoustic instruments as available in the period.
- Brass probably doubled with harmonium.
- **New version**
- Clean guitar panned left.
- Electric bass probably D.I.'d.
- Distorted guitar.
- Live Brass section .
- Handclaps on chorus.
- Overdubbed backing vocals.
- Al standard for soul funk outfit.

Arrangement

- **Original**
- Verse-Chorus structure, classic song structure in pop.
- Textural changes to give a wide dynamic range to match the voice.
- Bass pedal on verse.
- Vocals take on a rock feel on last verse.

- **New Version**
- Faster tempo in keeping with the 70's funk/disco genre.
- Electric guitar provides melodic hook.
- Extended vocal/instrumental sections in keeping with the decade (70's).
- Busy bass line on verses.
- Virtuosic performances in guitar, brass and bass parts.

Synthesis

- **Original**
- Acoustic instruments such as organ.
- Traditional sounds such as electric guitar with natural overdrive.
- Mostly natural reverbs.
- Compressed brass sound.
- **New Version**
- compressed drums.
- Soft distortion on lead guitar gives body but avoids a 'rock' sound.

Effects and Processing

- **Original**
- Wide reverb on voice.
- Vocal effects change dramatically at 2:02.
- Original has a narrower frequency range due to distribution on vinyl,
- Limited effects to maintain a realistic and naturalistic feel.
- Vocals double tracked panned central, brass right, bass drums left.
- Audible bouncing of tracks leading to lack of clarity in parts.
- **New Version**
- Use of full stereo spectrum.
- Fuzz guitar panned right.
- Clean guitar panned left.

(Total for Question 5 = 15 for A level 16 for AS marks)

6. **Charlie Christain: Solo Flight** https://youtu.be/IID2JPnGF00

Explain why guitar amplification was first needed and how it has developed. (20)

AO3 (maximum 8 marks)

- Originally to help the guitar be heard in a big band.
- 1920's -designed for acoustic guitars-not commercial-no effects.
- 1930's - pick ups added to guitar sending a signal to a speaker-Rickenbacker and Gibson experiment with amps based on radios.
- 1940's Leo Fender introduces the Fender Champion 1st amp with volume control
- 1947 Fender Dual pro 2 channels 2 volumes-adopted by Hawaii/ country lap steel guitars.
- 1950's Gibson Les Paul amp - Fender Tweed series/ Bassman - treble bass middle and presence, first effects Vibrato (pitch change) Tremelo (volume change).
- 1957 Vox AC15 - class A design loud and good distorted sound. Types of amp -
- TUBE - better/warmer sound quality-expensive prone to overheating/ damage
- SOLID STATE-semiconductor circuits-cheaper/reliable/lighter. 70's onwards
- MODELLING-microprocessor technology allows digital onboard effects to recreate the sound of different amps all in one amp

AO4 (maximum 12 marks)

- By the end of the 1920s the guitar was more popular than ever. But, because it could not compete in volume with the drums and horns of the jazz age, it was limited on the bandstand.
- Microphones were in wide use, and amplification was an accepted technology, particularly in entertainment. PA units with amps and speakers were used to add volume to vocal performances, phonographs, and radios.
- Many guitar players had stepped up to the microphone and had their playing amplified. But this setup had limitations, so guitarists looked at ways to combine microphone and amplification technologies specifically for guitar.

- Several technologies seemed to be viable: carbon button, piezo, condenser, electrostatic, electromagnetic. For the most part, these technologies were uncovered years before their musical application.
- In late 1928, the Stromberg-Voisinet Company of Chicago, IL, introduced a new electrified guitar, generally regarded as the earliest known electric guitar offered to the public. The pickup in this guitar looked very similar to the driver of a speaker. Significantly, it was an electromagnetic pickup.Connected to the top of the guitar by a small, thin rod, the pickup in the Stromberg converted the vibrations of the top of the guitar into electrical signals.
- In the realm of guitars of the 1930s, a number of manufacturers, builders and inventors tinkered with dual-coil pickup designs in an effort to cut noise, and thus make it possible to amplify the guitar even louder. Some manufacturers used two coils placed a good distance from each other, but within the same unit. This would have the effect of creating a wider magnetic field, thus helping to smooth out the tone. Other manufacturers did indeed place two coils together or use multiple magnets underneath to try to cancel or minimize hum.

(Total for Question 6 = 20 marks)

Total for section B = 35 / 16 marks

A Level : Total for paper = 75 marks

AS: Total for paper = 56 marks