Name: ..... Due: **Next Class / Friday**

# C3 Mixers & DAWs HW 1 – Alanis Morissette 'You Oughta Know' & Alesis ADAT

**Artist:** Alanis Morissette (Jagged Little Pill, 1995, Producer: Glen Ballard)
https://www.youtube.com/watch?v=NPcyTyilmYY

1. "You Oughta Know" was tracked in Glen Ballard's home studio on Alesis ADAT digital tape. Identify the instrument arrangements and production methods below. (3)

| Instrument / Track Element | Arrangement & Production Processing |
|---|---|
| Lead Vocal (Alanis Morissette) | Raw demo vocal take, high-pass filter, subtle 1176 compression |
| Bass Guitar (Flea) | Direct Injection (DI) blended with miked Gallien-Krueger amp |
| Drums (Taylor Hawkins / Matt Laug) | |
| Electric Rhythm Guitars (Dave Navarro) | |

2. The Alesis ADAT recorded 8 tracks of uncompressed digital audio onto consumer S-VHS tape. What were the exact bit-depth and sampling rate specifications of the original ADAT? (2)

.....
.....

3. Why was Modular Digital Multitrack (MDM) considered revolutionary for independent producers compared to traditional 2-inch analogue tape machines? (3)

.....
.....
.....

4. Explain the function of the High-Pass Filter (HPF) and the Input Pad (-20 dB) located at the top of a console channel strip during vocal and drum tracking. (4)

.....
.....
.....
.....

Name: ..... Due: **Next Class / Friday**

5. Explain the difference between routing an external processor via a Channel Insert versus an Auxiliary Send. Give one practical studio example of each routing method. (4)

.....
.....
.....
.....
.....

6. In digital recording, explain the relationship between Bit Depth and Dynamic Range, and describe why engineers add Dither when truncating from 24-bit to 16-bit: (4)

| Bit Depth & Theoretical Dynamic Range (6 dB Rule) (2) |
| --- |
| Dynamic range formula (6 dB per bit) and comparison of 16-bit (96 dB) vs 24-bit (144 dB): |
| **Dither Application & Quantization Distortion (2)** |
| Why low-level random TPDF noise replaces correlated harmonic distortion during bit reduction: |

| **Total:** | **/18** |
| --- | --- |