

A 2200 Hz

B - Perfectly even sampling times

$$C = 44100 \times 16 \times (180+24) \quad (\text{as } 2^{16} = 65536)$$
$$= 143,942,400 \text{ Bits}$$

D as $F_n = \frac{F_s}{2} = 1000 \text{ Hz}$, aliasing will occur. the $1000 \rightarrow 1100 \text{ Hz}$ frequencies will alias to $1000 \rightarrow 900 \text{ Hz}$

E sample at some rate above Nyquist, take the Short time Fourier transform ^{11 on F.T.} and ignore all frequencies below 100 Hz, and only record $100 \rightarrow 1000 \text{ Hz}$ on the CD. Only 1000 samples/s are recorded, but full fidelity is maintained.