Ch audio

Q1: What is the sound?

- ✓ It is the energy caused by the vibration of particles.

……

Q2: Vibrations in the air create pressure waves that are seen as:

- ✓ Sound

……

Q3: How do sound waves differ?

1. in sound pressure level (amplitude)
2. in frequency or degree (degree).

……

Q4: What are "acoustics?"

- ✓ It is the branch of physics that studies sound.

……

Q5: What are sound pressure levels (loudness or volume) measured by?

- ✓ in decibels (dB).

……

Q6: What is multimedia audio?

- ✓ MIDI (Musical Instrument Digital Interface) is digitally recorded sound or music.

……

Q7: What are the acoustic signals?

- ✓ They are continuous analog signals.

……

Q8: When is digital audio created?

- ✓ When the properties of a sound wave are represented using numbers - a process referred to as digitization

……

Q9: What are the inputs:

1. microphones and then digitizing and storing them.
2. Audio files must be compressed.
3. One minute of CD quality audio requires 5MB.

……

Q10: What is digital audio?

- ✓ It is a representation of the original sound

……

Q11: What is digital audio data?

- ✓ It is the actual representation of the sound stored in the form of samples.

……

Q12: What do the samples represent?

- ✓ The amplitude (or loudness) of a sound at a discrete point in time.

……

Q13: What does the quality of digital recording depend on?

- ✓ The sampling rate (or frequency) is the number of samples taken per second.

……

Q14: Why use digital audio?

- ✓ for music CDs

……

Q15: What is Digitized sound?

- ✓ It samples the audio in every nth of a second, a sample of the audio is taken and stored as digital information in bits and bytes.

……

Q16: What does the quality of this digital recording depend on?

1. How often is the sample taken (sampling rate).
2. How many numbers are used to represent the value of each sample (bit depth, sample size, resolution, or dynamic range).

……

Q17: To what is the value of each sample rounded?

1. to the nearest integer (quantization).?
2. It samples the audio in every nth of a second, a sample of the audio is taken and stored as digital information in bits and bytes.

……

Q18: What does the quality of this digital recording depend on?

1. How often is the sample taken (sampling rate).
2. How many numbers are used to represent the value of each sample (bit depth, sample size, resolution, or dynamic range).

……

Q19: To what is the value of each sample rounded?

- ✓ to the nearest integer (quantization).

……

Q20: What is the sampling rate?

- ✓ Measured in kilohertz, or thousands of samples per second, sound is usually compressed.

……

Q21: Why the more often you sample and the more data you store about that sample, the finer the resolution and quality of the captured audio when played back?

- ✓ Because the quality of your audio depends on the quality of your recording and not on the device the end user will play the audio on.

……

Q22: What are the three most commonly used sampling rates in multimedia?

1. 44.1 kHz (CD quality),
2. 22.05 kHz f
3. 11.025 kHz.

……

Q23: What are the sample sizes?

- ✓ It is either 8 bits or 16 bits. The larger the sample size, the more accurate the data is in describing the recorded sound

……

Q24: What does an 8-bit sample size

- ✓ 256 equal measurement units to describe the level and frequency of the sound in a slice of time.

……

Q25: What does a 16-bit sample size provide?

- ✓ provides a staggering 65,536 equal units to describe the sound in that same slice of time.

……

Q26: What does using more bits lead to the sample size?

- ✓ result in a recording that looks more like the original.

……

Q27: What are the types of recordings?

1. mono
2. stereo.

……

Q28: Mono recordings?

- ✓ Good but tends to look a bit 'flat' and uninteresting

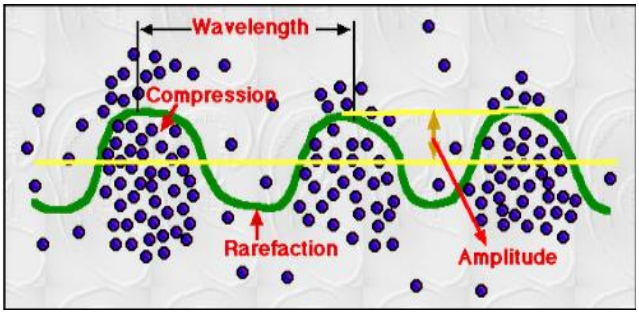
……

Q29: What do you need for stereo recording?

1. You need two microphones (left and right),
2. The created audio file will require twice the storage space of the single file for the same playback time.

……

Q30: Sound Signal Form:

✓ 

……

Q31: What is Amplitude(الغزارة):

✓ is the measure of the amount of energy in a sound wave.

……

Q32: What does the number of bits used to describe the amplitude of an audio wave when sampling determine the sample size?

✓ Rarefaction.

……

Q33: When is it impossible to reconstruct the original waveform?

✓ If the sampling frequency is too low.

……

Q34: To what is the value of each sample rounded?

✓ to the nearest integer (quantization)

……

Q35: When does shearing occur above and below the wave?

✓ If the capacity is greater than the available slots

……

Q36: What does using more bits add to the sample size?

✓ result in a recording that looks more like the original.

……

Q37: What are the two main aspects that you should focus on to prepare digital audio files?

1. Balance the need for sound quality against file size. Higher quality usually means larger files, requires longer download times on the Internet and more storage space on a CD or DVD.
2. Setting proper recording levels to get a good, clean recording.

……

Q38: Why not go over the limit?

✓ to avoid distortion

……

Q39: What are the steps to be taken if the limit is exceeded?

1. Lower the volume (either by lowering the input level of your recording device or the output level of your source) and try again.
2. Try to keep peak levels between -3 and -10.
3. In digital instrument displays, if you see red, you're over peaking. Daring

……

Q40: What is Audacity?

- ✓ It is a free, open source audio editing application for Windows, Macintosh, and Linux. With this tool, you can create audio tracks and digital mixes.

……

Q41: What are the basic audio editing processes?

1. Trim: The removal of "dead air" or empty space from the front of a recording and any unnecessary extra time from the end.
2. Splicing and Bundling: Remove noise that occurs during recording. Also, you may need to put together longer recordings by cutting and pasting together several shorter recordings.
3. Volume Adjustments: To provide a fixed volume level, select all the data in the file, and raise or lower the overall volume by a specific amount.

……

Q42: Why use an audio editor?

- ✓ To normalize the bundled audio file to a certain level, say 80 percent to 90 percent of the maximum (no clipping), or about -16dB.

……

Q43: What happens when you convert the format?

- ✓ Data may be lost when converting formats.

……

Q44: What are Fade-ins and Fade-outs?

- ✓ Most programs offer encapsulation, useful for long sections that you want to fade in or fade out. This wrapper helps smooth the beginning and end of the audio file.

……

Q45: What is the equation?

- ✓ It is the process of adjusting the balance between the frequency components within an electronic signal. Adjust the amplitude of audio signals at specific frequencies.

……

Q46: What is the opposite of sounds?

- ✓ Reverse all or part of a digital audio recording.

……

Ch audio

Q47: What are multiple paths?

- ✓ Being able to edit and combine multiple tracks (for sound effects, vocals, music, etc.) and then combine and export the tracks in a "final mix" into a single audio file is important.

……

Q48: Monophonic recording equalization?

- ✓ sampling rate × duration of recording (in sec.) × (bit resolution/8) × 1

……

Q49: Equalization for stereo recording

- ✓ sampling rate × duration of recording (in sec.) × (bit resolution/8) × 2

……

Q50: What does a sound test include?

- ✓ MIDI (Musical Instrument Digital Interface)

……

Q51: What is MIDI (Musical Instrument Digital Interface)?

- ✓ It is a technical standard that describes a protocol, digital interface, and connectors.

……

Q52: Why is MIDI technology used?

- ✓ To allow a variety of electronic musical instruments, computers and other related devices to connect and communicate with each other.

……

Q53: How much can one MIDI link hold?

- ✓ Up to 16 channels of information, each of which can be routed to a separate device.

……

Q54: What do scripting languages like revTalk (RunRev), Lingo (Director), and ActionScript (Flash) offer?

- ✓ Higher level of audio playback control.

……

Q55: What is MIDI?

- ✓ It is an abbreviated representation of music stored in digital form (a set of numbers).

……

Q56: What is a MIDI file?

- ✓ It is a list of commands that are recordings of musical events, which, when sent to a MIDI player, will produce a sound

……

Q57: Is MIDI not digital audio?

- ✓ true

……

Q58: What does MIDI depend on?

- ✓ Depends on the device.

……

Q59: Why are MIDI files embedded in web pages loaded and played immediately?

- ✓ Since it is small

……

Q60: Is it possible to change the length of a MIDI file without affecting the music or lowering the sound quality?

- ✓ True

……

Q61: Does working with MIDI require knowledge of music theory?

- ✓ True

……

Q62: What is the similarity of MIDI data, digital audio, vector graphics, and bitmaps?

1. Digital audio is like a bitmap - samples from the original to create a copy
2. MIDI - like a vector graphic - stores digital data to recreate the sound
3. MIDI data is device dependent; Digital audio is not
4. MIDI sounds (like vector graphics) are different on different devices;
5. Digital sounds are identical even on different computers or devices.

……

Q63: What is the difference between MIDI and digital audio?

1. MIDI files are much smaller than digital audio files.
2. MIDI files sound better than digital audio files when played back on a high-quality MIDI device.
3. With MIDI, it's hard to play spoken dialogue, while digital audio can do it easily.
4. One requires knowledge of music theory in order to play MIDI, while digital audio does not have this requirement.

……

Q64: what are MIDI Advantages?

1. MIDI file are much more compact and take up less memory and system resources
2. MIDI files embedded in web pages load and play much faster than digital.
3. With high quality MIDI devices, MIDI files may actually sound better than digital.

……

Q65: what are MIDI Disadvantages?

1. MIDI represents musical instruments do not sound and will be accurate only if your playback device is identical to the production device.
2. MIDI cannot be easily used to reproduce speech.

……

Q66: what are Digital Audio Advantages?

1. Digital audio sound is device independent.
2. A wide selection of software support is available for both MAC and PC
3. A knowledge of music theory is not required for creating digital audio, but usually is needed for MIDI production.

……

Q67: when Choose MIDI data?

1. If you don't have enough RAM memory, or bandwidth for digital audio.
2. If you have a high-quality sound source
3. If you have complete control over the playback hardware
4. If you don't need spoken dialog

……

Q68: when Choose Digital Audio?

1. If you don't have control over the playback hardware
2. If you have the computing resources and bandwidth to handle the larger digital files
3. If you need spoken dialog

……

Q69: how Sound File Format ?

1. On the Macintosh, digitized sounds may be stored as data files, resources, or applications such as AIFF or AIFC.
2. In Windows, digitized sounds are usually stored as WAV files.
3. Both Macintosh and Windows can use MIDI files (.mid)

……

Q70: How to become a professional voice?

1. Compression technologies reduce space, but reliability suffers.
2. Space can be conserved by down-sampling or by reducing the number of sample slices taken per second.
3. Digital Audio Tracks (for example) enables you to record a song from an audio CD, erase the singer's voice and replace it with your song.

……

Q71: Act digital recording file size (in bytes)?

- ✓ File size of digital recording (in bytes) = sampling rate × duration of recording (in secs) × (bit resolution/8) × number of tracks.

……