Types of Deafness

1. **Conductive hearing loss** occurs due to problems in the _____.
   a) Inner ear
   b) Middle or outer ear
   c) Auditory nerve
   d) Brainstem
   Answer: b) Middle or outer ear

2. **Sensorineural hearing loss** is caused by damage to the _____.
   a) Eardrum
   b) Ossicles
   c) Cochlea or auditory nerve
   d) External ear canal
   Answer: c) Cochlea or auditory nerve

3. **Mixed hearing loss** is a combination of _____ and _____ hearing loss.
   a) Conductive, Sensorineural
   b) Neural, Conductive
   c) Auditory, Peripheral
   d) Genetic, Acquired
   Answer: a) Conductive, Sensorineural

4. **Noise-induced hearing loss** is an example of _____ hearing loss.
   a) Conductive
   b) Sensorineural
   c) Central
   d) Temporary
   Answer: b) Sensorineural

5. **Otosclerosis** is a condition that leads to _____ hearing loss due to abnormal bone growth in the middle ear.
   a) Sensorineural
   b) Conductive
   c) Central
   d) Mixed
   Answer: b) Conductive

6. The primary function of a hearing aid is to _____ sound.
   a) Block
   b) Reduce
   c) Amplify
   d) Transmit
   Answer: c) Amplify

7. The three main components of a hearing aid are the microphone, _____ and receiver.
   a) Speaker
   b) Amplifier
   c) Battery
   d) Electrode
   Answer: b) Amplifier

8. **Behind-the-Ear (BTE) hearing aids** are commonly used for _____ hearing loss.
   a) Mild
   b) Moderate
   c) Severe to profound
   d) Temporary
   Answer: c) Severe to profound

9. **Completely-in-the-Canal (CIC) hearing aids** are best suited for individuals with _____ hearing loss.
   a) Profound
   b) Moderate to severe
   c) Mild to moderate
   d) Total
   Answer: c) Mild to moderate

10. **In-the-Ear (ITE) hearing aids** fit completely inside the outer ear and are suitable for _____ hearing loss.
    a) Mild to severe
    b) Profound
    c) Temporary
    d) Conductive
    Answer: a) Mild to severe

11. The **SISI test** is used to detect _____ hearing loss.
    a) Conductive
    b) Neural
    c) Sensorineural
    d) Temporary
    Answer: c) Sensorineural

12. A **positive SISI test** result indicates a lesion in the _____.
    a) Middle ear
    b) Cochlea
    c) External auditory canal
    d) Tympanic membrane
    Answer: b) Cochlea

13. The SISI test is based on the ability to detect _____ increments in sound intensity.
    a) 1 dB
    b) 5 dB
    c) 10 dB
    d) 15 dB
    Answer: a) 1 dB

14. If a patient scores **more than 75%** in the SISI test, it suggests _____.
    a) Conductive hearing loss
    b) Normal hearing
    c) Cochlear damage
    d) Auditory nerve dysfunction
    Answer: c) Cochlear damage

15. **Masking** is used in audiometry to prevent the _____ ear from detecting sound presented to the test ear.

a) Left
b) Right
c) Non-test
d) Damaged
Answer: c) Non-test

16. The most commonly used masking noise in audiometry is _____ noise.
    a) White
    b) Pink
    c) Narrow-band
    d) Brown
    Answer: c) Narrow-band

17. **Effective masking** is achieved when the masking noise is sufficient to prevent _____ conduction of sound.
    a) Air
    b) Bone
    c) Neural
    d) Vibration
    Answer: b) Bone

18. **Over-masking** occurs when the masking noise level is too _____.
    a) Low
    b) High
    c) Balanced
    d) Mild
    Answer: b) High

19. **Under-masking** results in the patient responding to sound detected through _____.
    a) Air conduction
    b) Bone conduction
    c) Electric stimulation
    d) External noise
    Answer: b) Bone conduction

20. **Cochlear implants** are used in patients with _____ hearing loss.
    a) Conductive
    b) Sensorineural
    c) Mixed
    d) Temporary
    Answer: b) Sensorineural

21. A **Bone Anchored Hearing Aid (BAHA)** is most suitable for patients with _____ hearing loss.
    a) Conductive
    b) Neural
    c) Sensorineural
    d) Temporary
    Answer: a) Conductive

22. **Middle ear implants** are recommended for individuals who cannot wear _____ hearing aids.
    a) Cochlear
    b) In-the-Ear (ITE)
    c) Behind-the-Ear (BTE)

d) Completely-in-the-Canal (CIC)
Answer: c) Behind-the-Ear (BTE)

23. **Hearing assistive devices** such as FM systems and infrared systems help improve hearing in _____ environments.
    a) Quiet
    b) Noisy
    c) Water-based
    d) Underwater
    Answer: b) Noisy

24. **Personal Sound Amplification Products (PSAPs)** are different from hearing aids because they are not intended for _____ use.
    a) Medical
    b) Recreational
    c) Digital
    d) Wireless
    Answer: a) Medical

25. The main advantage of **digital hearing aids** over analog hearing aids is _____ processing of sound signals.
    a) Manual
    b) Automatic
    c) Electric
    d) Non-amplified
    Answer: b) Automatic

26. **Cochlear implants** are used to treat individuals with _____ hearing loss.
    a) Conductive
    b) Sensorineural
    c) Mixed
    d) Temporary
    Answer: b) Sensorineural

27. The main components of a cochlear implant include an external speech processor, a transmitter, and an _____.
    a) Electrode array
    b) Microphone
    c) Amplifier
    d) Hearing aid
    Answer: a) Electrode array

28. The **electrode array** of a cochlear implant is inserted into the _____.
    a) Tympanic membrane
    b) Auditory nerve
    c) Cochlea
    d) Middle ear
    Answer: c) Cochlea

29. Cochlear implants work by bypassing the damaged hair cells and directly stimulating the _____.
    a) Middle ear bones
    b) External ear
    c) Auditory nerve

d) Brainstem
Answer: c) Auditory nerve

30. The external **speech processor** of a cochlear implant is responsible for _____.
    a) Converting sound into electrical signals
    b) Amplifying sound
    c) Filtering noise
    d) Increasing pitch
    Answer: a) Converting sound into electrical signals

31. The power source for a cochlear implant is typically a _____.
    a) Rechargeable battery
    b) Solar cell
    c) Capacitor
    d) Inductive coil
    Answer: a) Rechargeable battery

32. Cochlear implants provide sound perception by stimulating the auditory nerve with _____.
    a) Electrical impulses
    b) Magnetic waves
    c) Sound waves
    d) Mechanical vibrations
    Answer: a) Electrical impulses

33. **Bimodal hearing** refers to using a cochlear implant in one ear and a _____ in the other ear.
    a) Middle ear implant
    b) Hearing aid
    c) Bone-anchored hearing aid
    d) FM system
    Answer: b) Hearing aid

34. **Digital signal processing (DSP)** in hearing aids helps improve _____.
    a) Sound quality
    b) Sound distortion
    c) Battery consumption
    d) Device weight
    Answer: a) Sound quality

35. The **main advantage** of digital hearing aids over analog hearing aids is the ability to _____.
    a) Amplify all sounds equally
    b) Filter background noise
    c) Reduce power consumption
    d) Work without batteries
    Answer: b) Filter background noise

36. **Noise reduction algorithms** in hearing aids help in reducing _____ noise.
    a) Background
    b) Speech
    c) Electrical
    d) Mechanical
    Answer: a) Background

37. **Directional microphones** in hearing aids help in _____.
    a) Amplifying background noise
    b) Reducing speech clarity
    c) Focusing on sounds from a specific direction
    d) Increasing echo
    Answer: c) Focusing on sounds from a specific direction

38. **Frequency transposition** in digital hearing aids is used to shift _____ frequencies to a more audible range.
    a) Low
    b) High
    c) Medium
    d) Variable
    Answer: b) High

39. **Automatic gain control (AGC)** in hearing aids prevents _____ sounds from being uncomfortably loud.
    a) Soft
    b) High-pitched
    c) Sudden loud
    d) Background
    Answer: c) Sudden loud

40. **Speech enhancement** algorithms in hearing aids are designed to improve _____.
    a) Background noise levels
    b) Speech clarity
    c) Sound amplification
    d) Battery life
    Answer: b) Speech clarity

41. **Bluetooth-enabled hearing aids** allow direct audio streaming from _____.
    a) FM radio
    b) Landline phones
    c) Smartphones and televisions
    d) Power banks
    Answer: c) Smartphones and televisions

42. The **main advantage of wireless hearing aids** is improved _____.
    a) Battery life
    b) Connectivity to external devices
    c) Analog signal processing
    d) Echo generation
    Answer: b) Connectivity to external devices

43. **Telecoils (T-coils)** in hearing aids help users hear better in environments with _____.
    a) Wireless signals
    b) Loop induction systems
    c) Background noise
    d) Low frequency sounds
    Answer: b) Loop induction systems

44. **FM systems** in hearing aids are commonly used in _____.
    a) Noisy classrooms

b) Quiet environments
c) Underwater activities
d) Mobile communication
Answer: a) Noisy classrooms

45. **Near-field magnetic induction (NFMI)** technology is used in hearing aids for _____.
a) Short-range wireless communication
b) Long-distance signal transmission
c) Speech processing
d) Frequency transposition
Answer: a) Short-range wireless communication

46. **Rechargeable hearing aids** use _____ batteries instead of traditional disposable ones.
a) Lithium-ion
b) Alkaline
c) Nickel-cadmium
d) Lead-acid
Answer: a) Lithium-ion

47. **AI-powered hearing aids** use machine learning algorithms to adapt to _____.
a) Different listening environments
b) Battery voltage
c) Static noise levels
d) FM signals
Answer: a) Different listening environments

48. **Remote programming** in modern hearing aids allows audiologists to adjust settings via _____.
a) Mobile apps
b) Physical tuning knobs
c) Wired connections
d) External speakers
Answer: a) Mobile apps

49. **Hearing aids with cloud connectivity** allow users to store and access their settings via _____.
a) Internet-based servers
b) Local storage
c) FM radio
d) Infrared signals
Answer: a) Internet-based servers

50. **Bone conduction hearing aids** are mainly used for individuals with _____.
a) Sensorineural hearing loss
b) Conductive hearing loss
c) Temporary hearing impairment
d) Tinnitus
Answer: b) Conductive hearing loss

51. The **primary function of a digital signal processor (DSP)** in a hearing aid is to _____ sound signals.
a) Digitally amplify
b) Convert to analog
c) Remove all noise

d) Increase frequency
Answer: a) Digitally amplify

52. **Adaptive noise reduction (ANR)** in hearing aids helps to minimize _____.
    a) Speech signals
    b) Background noise
    c) Microphone sensitivity
    d) Battery consumption
    Answer: b) Background noise

53. The **spectral subtraction method** is used in digital hearing aids to reduce _____ noise.
    a) Impulse
    b) White
    c) Stationary
    d) Reverberation
    Answer: c) Stationary

54. **Time-frequency analysis** in speech processing helps hearing aids distinguish between _____ and background noise.
    a) Music
    b) Speech
    c) Echo
    d) Feedback
    Answer: b) Speech

55. **Feedback cancellation systems** in modern hearing aids use _____ techniques.
    a) Digital phase inversion
    b) Mechanical dampers
    c) Sound reflection
    d) Frequency distortion
    Answer: a) Digital phase inversion

56. **Beamforming technology** in hearing aids is used to enhance sound coming from _____.
    a) Any direction
    b) A specific direction
    c) Multiple speakers
    d) Background noise
    Answer: b) A specific direction

57. The **Lombard effect** refers to the automatic increase in speech loudness in response to _____.
    a) Loud environments
    b) Silent environments
    c) High frequencies
    d) Low energy signals
    Answer: a) Loud environments

58. **Automatic Environment Classification (AEC)** in hearing aids helps in adjusting settings based on _____.
    a) The user's age
    b) The surrounding environment
    c) The battery level
    d) Bluetooth connectivity
    Answer: b) The surrounding environment

59. **Machine learning algorithms** in hearing aids can adapt to different sound environments by using _____.
    a) Pre-set programs
    b) User feedback data
    c) Random adjustments
    d) Frequency inversion
    Answer: b) User feedback data

60. **Multi-band compression** is used in digital hearing aids to adjust amplification for different _____.
    a) Background noise levels
    b) Frequency bands
    c) Distortion levels
    d) Signal directions
    Answer: b) Frequency bands

61. **Binaural synchronization** in hearing aids helps to improve _____.
    a) Battery efficiency
    b) Stereo perception
    c) Single-ear hearing
    d) Low-frequency filtering
    Answer: b) Stereo perception

62. **Echo cancellation** in hearing aids is crucial for improving speech clarity in _____ environments.
    a) Quiet
    b) Large rooms
    c) Noisy outdoor
    d) Industrial
    Answer: b) Large rooms

63. **Frequency-lowering technology** in hearing aids helps individuals with severe _____ hearing loss.
    a) High-frequency
    b) Low-frequency
    c) Mid-frequency
    d) Conductive
    Answer: a) High-frequency

64. **Real-time directional microphone switching** allows hearing aids to automatically focus on the _____.
    a) Closest voice
    b) Background noise
    c) Louder sound
    d) All noises equally
    Answer: a) Closest voice

65. **Dynamic range compression (DRC)** in hearing aids prevents sounds from becoming _____.
    a) Too weak
    b) Uncomfortably loud
    c) Too high in pitch
    d) Delayed
    Answer: b) Uncomfortably loud

66. **AI-powered hearing aids** can automatically recognize and adjust for different _____.
    a) Speech accents

b) Battery levels
c) Temperature changes
d) Hearing loss types
Answer: a) Speech accents

67. **Tele-audiology** allows hearing aid users to receive remote assistance via _____.
a) Bluetooth speakers
b) Mobile apps
c) FM radio
d) Infrared signals
Answer: b) Mobile apps

68. **Directional microphones in hearing aids** are most beneficial in _____.
a) One-on-one conversations
b) Crowded environments
c) Quiet bedrooms
d) Low-frequency sounds
Answer: b) Crowded environments

69. **Wireless streaming hearing aids** allow users to receive sound directly from _____.
a) Smart TVs
b) Power sources
c) Telephones
d) Both a & c
Answer: d) Both a & c

70. **Hearing aids with tinnitus masking features** generate _____ to help reduce tinnitus perception.
a) Echoes
b) White noise
c) Digital delays
d) Low-frequency waves
Answer: b) White noise

71. **Bone conduction hearing devices** are mainly used for people with _____ hearing loss.
a) Sensorineural
b) Conductive
c) Temporary
d) Mild
Answer: b) Conductive

72. **The use of cloud-based hearing aid software** allows users to store _____.
a) Personalized hearing settings
b) Battery statistics
c) Audio recordings
d) Sound waves
Answer: a) Personalized hearing settings

73. **Rechargeable lithium-ion hearing aids** have an average battery life of _____ hours per charge.
a) 3-5
b) 12-24
c) 48-72
d) 100
Answer: b) 12-24

74. **In-the-ear (ITE) hearing aids** are different from behind-the-ear (BTE) models because they are _____.
    a) Smaller and fit inside the ear canal
    b) Larger with external components
    c) Less expensive
    d) Connected by wires
    Answer: a) Smaller and fit inside the ear canal

75. **Hearing aids integrated with smart assistants** can be controlled using _____.
    a) Voice commands
    b) Hand gestures
    c) Infrared signals
    d) Manual switches
    Answer: a) Voice commands