BHARATI VIDYAPEETH
(DEEMED TO BE UNIVERSITY), PUNE, INDIA
PhD Entrance Test – 2026
SECTION-II: Audiology- 35 Marks

Technology in Audiology

a. Digitization of data and digital systems; Principles and methods of digital signal processing
b. Fundamentals of communication systems – (i) AM & FM transmission & reception (ii) Digital modulation techniques, (iii) Satellite communication
c. Transducers and signal generation
d. Biomedical signals &signal processing: Principles of generation of acoustic stimuli
e. Signal acquisition and processing techniques
f. Working principles of EEG / Magnetoencephalography, event related potentials/ evoked potential.
g. High-fidelity sound reproducing systems: Auditorium acoustics
h. Artificial neural networks
i. Speech processing and synthesis models and techniques (linear predictive coding, linear prediction model, LPC-based synthesis) and applications, review of signal processing, Fourier transform and short-time speech analysis(energy, zero-crossing rate, autocorrelation function).
j. Voice response system, speaker recognition system and speech recognition system: Speech synthesis methods, speech recognition, speaker recognition, speech coding, and speech enhancement.
k. Basic principles of cepstral analysis, filtering low-time filtering for formant estimation, high-time filtering for pitch estimation, complex cepstrum
l. Principles of neuro imaging techniques - MRI, fMRI,NIRS, CT, PET, SPECT, TMS and MEG and their technology (working principles, interpretation and implications).
m. Synching various speech stimuli and events for fMRI acquisition and speech perception in fMRI
n. Technology available for intra-operative monitoring of sensory and motor functions
o. Tele-technology: Definition, applications, technology, resources
p. Transmission of information: transmission of patient images, reports, etc.
q. Remote consultations and databases
r. Distance learning- multimedia meeting room / videoconferencing
s. Software packages and applications in hearing diagnostics and research - MATLAB, Adobe audition, Audacity, PRAAT
t. Basics features, vectors and matrices, built-in functions and plotting
u. Editing audio files, applying effects in waveform editor, amplitude compression and modulation effects, filter and equalizer effects, noise reduction/ restoration effects, basic multitrack controls, saving and exporting
v. Computer based assessment and intervention programs relating to hearing
w. Calibration and maintenance of equipment

Cochlear Physiology

a. Macro & microanatomy of cochlea
b. Homeostatic mechanisms in cochlea
c. Blood supply to cochlea
d. Innervations of cochlea

e. Cochlear regeneration
f. Evolution of human cochlea
g. Techniques to study hair cell and basilar membrane physiology
h. Basilar membrane mechanics and non-linearity
i. Outer hair cell physiology – different mechanisms involved in hair cell motility
j. Inner hair cell physiology
k. Cochlear non-linearity
l. Efferent control of cochlear hair cells
m. Nutrients related to sensory cell physiology
n. Ontogenetic development of cochlea
o. Phylogentic development of cochlea
p. Developmental changes in the cochlea; effect of advancing age on cochlea
q. Comparative physiology of auditory system in non-mammalian species
r. Classifications of OAEs; mechanism based taxonomy
s. Characteristics of different types of OAEs
t. Instrumentation and techniques for recording different types of OAEs
u. Factors affecting different types of OAEs
v. Fine structure DPOAEs
w. Suppression of OAEs: ipsilateral, contralateral, and bilateral
x. Clinical applications of OAEs
y. Endocochlear potentials.
z. Electrocochleograhy: Instrumentation and technique
aa. Protocol for recording ECochG
bb. Interpretation of ECochG
cc. Clinical application of ECochG

Neurophysiology of Hearing

a. Auditory nerve
b. Cochlear nucleus
c. Superior olivary complex
d. Lateral leminiscus
e. Inferior colliculus
f. Medial geniculate body
g. Stimulus coding
h. Non linearity
i. Action potentials
j. Neurotransmitters and neuromodulators
k. Tonotopic organization of auditory brainstem
l. Coding of simple and complex acoustic signals at auditory brainstem
m. Role of subcortical structures in sound localization
n. Anatomy of primary and secondary auditory cortex
o. Tonotopic organization in auditory cortex
p. Coding of signals in the at auditory cortex
q. Association of auditory cortex with other structures
r. Role of auditory cortex in sound localization
s. Plasticity of auditory cortex
t. Efferent auditory pathway: medial and lateral olivo cochlear bundle
u. Functioning of the auditory efferent system
v. Role of auditory efferent system in hearing
w. Protective function of auditory efferent system

Hearing Sciences

a. Physical description and parameters for generation of sounds: Sine wave and complex signals; Analysis of sound: Spectrum and spectrogram, LTASS; Filters and their properties
b. Theory of signal detection: Basic concepts and applications of signal detection
c. Psychophysical methods - Classical and adaptive methods

d. Overview of absolute and relative measures: Methods of measuring absolute and relative thresholds; thresholds of audibility (MAP & MAF); Models of loudness.
e. Loudness perception in normal hearing persons
f. Effect of hearing impairment on perception of loudness
g. Dynamic range of hearing, equal loudness contours and loudness scaling.
h. Recruitment and softness imperceptions
i. Consequences of altered loudness perception
j. Factors affecting loudness: Bandwidth, duration, adaptation and masking.
k. DLI
l. Theories of pitch perception - simple and complex signals
m. Pitch scales
n. Factors affecting pitch perception
o. Perception of pure-tones by persons with normal hearing and those with hearing impairment
p. Perception of complex signals by persons with normal hearing and those with hearing impairment
q. DLF
r. Critical band concept and power spectrum model
s. Estimating the shape of auditory filter: Psycho-physical tuning curve; Notched noise; Non-simultaneous masking
t. Auditory filter shapes in normal hearing and hearing impaired
u. Masking patterns and excitation patterns in normal hearing and hearing impaired
v. Central masking
w. Informational masking
x. Overshoot phenomena
y. Co-modulation masking release
z. Effect of hearing loss on non-peripheral masking

Auditory Perception

a. Overview of temporal processing: temporal resolution; temporal integration; models of temporal processing
b. Detection and discrimination of gaps in normals and individuals with hearing impairment
c. Temporal modulation transfer function in normals and individuals with hearing impairment
d. Temporal integration in persons with normal hearing and those with hearing impairment
e. Models of temporal processing in persons with normal hearing and those with hearing impairment
f. Basic concepts in auditory object perception
g. Spectral cues for object perception
h. Temporal cues for object perception
i. Auditory pattern perception in individuals with normal hearing and those with hearing impairment
j. Timber perception
k. Time invariant-pattern and time varying pattern perception
l. Adaptation vs. fatigue
m. Methods of studying adaptation
n. Adaptation in in persons with normal hearing and those with hearing impairment

o. Neurophysiological basis of adaptation
p. Factors affecting adaptation
q. Perception of distance: localization vs. lateralization; localization of pure tones; localization of complex signals
r. Effect of hearing loss on localization
s. Monaural localization
t. Factors affecting localization
u. Neurophysiology of localization
v. Binaural hearing - overview
w. Models of binaural hearing
x. Masking level difference
y. Musical scales/Musical notes
z. Factors affecting perception of music

Auditory Disorders

a. Congenital malformations of external and middle ear
b. Diseases of the external ear: otitis – externa, neoplasms of external ear, cerumen, keratosis obturans, injuries, sebaceous cysts, acquired atresia, stenosis of external auditory canal & malignant otitis externa
c. Diseases of the middle ear cleft: otosclerosis otitis media, non suppurative otitis media, complications of middle ear diseases, neoplasms.
d. Assessment of middle ear functioning: multicomponent tympanometry, multifrequency tympanometry, wide band reflectance/absorbance, reflexometry
e. Reconstruction of external and middle ear hearing mechanisms: reconstructive and rehabilitation procedures
f. Pathophysiology inner ear disorders: ototoxicity, Meniere's, age related hearing loss, Sudden hearing loss, auto immune conditions, hearing loss due to systemic diseases
g. Audiological profile in persons with above inner ear disorders
h. Nonaudiolgical management options
i. Pathophysiology inner ear disorders due toNIHL and other traumatic injuries
j. Audiological profile in persons with NIHL and other traumatic injuries
k. Hearing conservation: National and International guidelines
l. Nonaudiolgical management options
m. Pathophysiology of space occupying lesions of auditory nerve and brainstem
n. Audiological profile in persons with space occupying lesions
o. Radiological findings and its correlations with audiological findings
p. Challenges in diagnosis of space occupying lesion
q. Management options for space occupying lesion
r. Pathophysiology of ANSD
s. Etiology of ANSD
t. Audiological profile of persons with ANSD and its correlations with pathophysiology
u. Speech perception in persons with ANSD
v. Management of persons with ANSD: Aids strategies

Electrophysiological Assessment

a. Introduction and Classification of AEPs
b. Neuroanatomy and neurophysiology related to AEPs; dipole orientation and scalp distribution of AEPs
c. Stimuli for recording AEPs- generation, characteristics and types

d. Electrodes for recording AEPs
e. General principles of recording AEPs
f. Overview to advanced analyses techniques such as independent component and time frequency analyses
g. Maintenance and Calibration of instrumentation
h. Acquisition and analysis responses for different stimuli -clicks, tone buursts, chirps, complex stimuli such as speech
i. New trends in ABR such as Cochlear Hydrops Analysis Masker Procedure (CHAMP) and stacked ABRs, and ABR for chained stimuli,
j. Factors influencing ABR: Stimuli related, acquisition related, subject related
k. Clinical applications

l. Acquisition and analysis of middle latency responses,
m. Factors influencing middle latency responses: Stimuli related, acquisition related, subject related
n. Acquisition and analysis of auditory steady state responses (ASSR)
o. Factors influencing ASSR: Stimuli related, acquisition related, subject related
p. Post auricular muscle responses
q. Clinical applications
r. Overview of exogenous and endogenous cortical evoked potentials
s. Acquisition and analysis of obligatory cortical auditory evoked potentials, acoustic change complex, T-complex, mismatch negativity, P300, N400, P600, CNV and other endogenous potentials
t. Factors affecting exogenous and endogenous evoked potentials Stimuli related, acquisition related, subject related
u. Clinical applications
v. Physiological tests useful in intraoperative monitoring of auditory function
w. Effect of anesthetic agents on electrophysiological responses of the auditory system
x. Recording auditory evoked potentials during surgery; requirements, patient preparation
y. Guidelines for intraoperative monitoring
z. Electroneurenography

Advances in the Management of Hearing Loss

a. Application of recent advances in hearing aids and hearing assistive technology : Compression and expansion, directionality, advanced signal processing techniques
b. including noise reduction algorithms, wireless technology, data logging, trainable hearing aids, occlusion reduction, application of nanotechnology in hearing aids, Personal amplification systems
c. Techniques to control acoustic feedback, distortion, circuit noise: Electromagnetic interference – measurement, solutions; techniques to improve compatibility of hearing aids with mobile phones
d. Application of LASER technology in ear mold production, ear mold modifications for enhancing listening comfort – physical and acoustic modifications
e. Electroacoustic measurement of hearing aids: Variables affecting electroacoustic
f. measurements and its implications
g. f) International and Indian standards/legislations for hearing aids and ALDs.
h. Selection, verification and validation of hearing aids and hearing assistive devices: Pre-selection, selection an assessment of listening needs
i. Objective procedures for hearing aid fitting (ABR, ALLR, ASSR and others):
j. Hearing aid programming, optimization, verification and validation
k. Hearing aid fitting for children : pre-selection, selection, verification and validation: Different protocols used
l. Hearing aid fitting for persons with different types of hearing loss (Sudden hearing loss, unilateral hearing loss, High frequency hearing loss, Cochlear dead region)
m. Future trends in hearing aids and HATs: Technology and fitting strategies

n. Factors affecting speech perception through hearing aids and hearing devices: Auditory plasticity
o. Methods to improve speech perception through hearing aids and hearing devices: Speech cue enhancement – spectral shape, duration, intensity, enhancement of CVR, speech simplification, re-synthesis, enhancement of perception of telephone speech
p. Emerging technology for better speech perception
q. Noise reduction algorithms and nanotechnology in hearing aids
r. Counseling of users of hearing aid and hearing assistive devices: techniques: Realistic expectations, adjusting to hearing device, other management options
s. Care and maintenance of hearing aid and hearing assistive devices
t. Trouble shooting and fine tuning/optimization of hearing aids and assistive devices
u. Management of children with hearing impairment: Criteria for selecting different auditory listening programs; criteria for transition from one method to the other as a child grows: Adapting AVT techniques for Indian languages and late identified children
v. Providing group listening training activities for children having different listening skills
w. Rehabilitation of adults and older adults: auditory listening / speech reading training for older adults: variables that affect the communication and the role of the communication partner: auditory plasticity: Planning training activities; assertiveness training
x. Quality of life of hearing impaired and its enhancement: Outcomes of different management strategies across age groups: Methods and measures
y. Management of children and adults with multiply disability: hearing aid fitting considerations, strategies used and the outcome with different strategies for individuals with hearing impairment with visual problems; cognitive problems; neuro-motor problems: educational and vocational placement, role of caregivers and outcome measures
z. Audiological management of tinnitus: characteristics, assessment of tinnitus, basis and theories of tinnitus, models related to tinnitus management: patho-physiological and neurophysiological model: overview to non-audiological management techniques for tinnitus
aa. Audiological management techniques for those with normal hearing and different degrees of hearing loss (TRT, counseling, others) and their outcomes
bb. Audiological management of persons with hyperacusis: Models related to hyperacusis management; overview to non-audiological management techniques for hyperacusis Audiological management techniques for normal hearing and different degrees of hearing loss and their outcomes

Genetics of Hearing and Pediatric Audiology

a. Basic concepts of genetics
b. Genes involved in hearing
c. Gene localization methods, gene mapping
d. Genetics of hearing impairment, gene database for hearing loss
e. Genetic evaluation of persons/families with hearing loss, genetic screening
f. Genotypes and phenotypes of non syndromic hearing loss
g. Genotypes and phenotypes of syndromic hearing loss
h. Genetic counseling
i. Neonatal and infant hearing screening, international and national Protocols to identify middle ear disorders; sensory and neural hearing loss
j. Screening for hearing loss in school children
k. Screening for central auditory processing disorders in school children
l. Issues related to hearing screening
m. Etiology of hearing loss in children
n. Behavioral tests of hearing evaluation for children
o. Physiological tests of hearing evaluation for children

p. Assessing hearing in children with associated problems
q. Speech audiometry in children
r. Development of tests for speech audiometry in children
s. Issues related to assessment and diagnosis of hearing loss in children
t. Integration of results of behavioral and electrophysiological assessment of hearing
u. Correlating results of audiological evaluation with those of otolaryngological, pediatric, psychological and speech-language evaluation
v. Problems faced by children with hearing loss in preschool and school setup
w. Challenges/problems faced by children with conductive hearing loss and auditory processing problems
x. Counseling parents/caregivers regarding hearing impairment, sequel and management
y. Counseling and management of children with unilateral hearing loss and mild hearing loss

Implantable Auditory Devices

a. Candidacy for bone conduction implantable devices (BCID), middle ear implants **(**MEI), cochlear implant (CI), auditory brainstem implant (ABI) and mid brain implant (MBI): evidence from research
b. Comprehensive Candidacy Assessment for implantable hearing devices (IHD-Audiological and non-audiological).
c. Safety standards and regulation for IHD.
d. State and central Government schemes for cochlear implants and other implantable devices.
e. Pre-requisite to start aIHD program
f. Comprehensive policy issues relating to IHD
g. Types of BCID and components (per-cutaneous, trans-cutaneous and intra-oral)
h. Types of MEI and components
i. Intra-operative and post-operative measurements/assessment for device function (troubleshooting) and performance outcomes
j. Programming BCID and MEI
k. Contra indications and management of device failures and poor performance.
l. Limitations and future development/requirement
m. Concepts and types of ci : external components (sound processor- body worn, BTE, off the ear); internal component (electrode type/design, MRI compatibility & reliability);totally implantable cochlear implants.
n. Expanding criteria- audiological and non-audiological assessment: single sided deafness, ski sloping SN hearing loss, bilateral asymmetric HL; cochlea/nerve anomaly(classification), auditory neuropathy spectrum disorder (ANSD) and multiple disabilities.
o. Speech/Sound Coding Strategies: Within and across devices; Evidences from research and critical analysis of each strategy; Features for Enhancing Speech and Music perception.
p. Surgical procedures: posterior tympanotomy, varia technique, hearing preservation technique; surgical complications and management
q. Intra-operative measurement: device function (impedance/ voltage/ complaince telemetry); patient function (eCAP, eSRT, eABR and facial nerve monitoring); Special consideration in anomalous cochlear/nerve, ANSD and multiple disabilities.
r. Psychophysics of programming: parameters (pulse width, rate of stimulation, frequency allocation/ re-allocation, map law);pre-requisites for mapping: pre-implant radiological report, post-implant radiological report; discharge report of surgeon; non-physiological objective measures (electrode impedance, compliance, electrode voltage); special considerations in cochlea/nerve anomaly, ANSD, multiple disabilities and SSD; Effect of map parameters on perception of loudness, pitch perception, gap,
s. Programming technique: evidences from research: behavioral maps; objective maps (eCAP, eSRT&eABR based programming); evidence and target based programming (artificial intelligence);self-

programming.

t. Measuring performance and MAP optimization: assessment of benefit: speech and non-speech; electrophysiological measures (EABR and other evoked potentials); optimization of: hearing aid in the contralateral ear for bimodal implants; bilateral cochlear implants; electroacoustic stimulation and SSD.
u. Complications: identifying and managing device failures; identifying and managing infection, magnet migration, electrode extrusion; identifying and managing poor performance; decision making in subjects with poor performance; special consideration in revision implantation; outcome audit.
v. Limitations and future developments/requirements (device, techniques and procedures)
w. Pre-op (ABI and MBI): candidacy for children and adult; audiological and non-audiological assessment; evidences from research for predicting outcome; counseling and expectations; device type and components
x. Intra-op (ABI and MBI): Surgical procedures – overview; eABR, cranial nerve monitoring; decision making.
y. Post-op: programming ABI (subjective and objective methods) and technique for pitch ranking, identifying auditory and non-auditory electrodes); MAP optimization (pitch, loudness, auditory and non-auditory sensation); techniques to identify auditory and non-auditory sensation; assessment of benefit: speech and non-speech; role of eABR, aided cortical potentials, PET and fNIRS in programming and monitoring outcomes.
z. Managing and monitoring subject with ABI: rehabilitation strategy; identifying and managing complications (device failure, infection, trauma, device migration, radio imaging); identify poor performance- auditing outcome; decision making in complications and poor performance

Speech Perception

a. Basic concepts of speech perception; hearing, listening, perception and comprehension; acoustic cues of different classes of speech sounds
b. Definition and concept of categorical and continuous speech perception
c. Normalization in speech perception: Definition and methods used for normalization of vowels and consonants
d. Coding of speech in the auditory pathway - cochlea, auditory nerve and the central auditory pathway
e. Theories of speech perception (acoustic, neurological, auditory, motor, analysis-by-synthesis, dual stream, reverse hierarchy theory)
f. Perception of vowels and diphthongs in normal - major and minor cues
g. Perception of consonants in normals: Major and minor cues to identify place, manner and voicing features of stops, fricatives, affricates, nasals
h. Perception of vowels and consonants in the persons with hearing impairment
i. Perception of vowels and consonants through amplification and implantable devices.
j. Effects of co-articulation on speech perception:
k. Perception of segmental features in normal hearing individuals
l. Perception of suprasegmental cues in normal hearing individuals
m. Perception of segmental and suprasegmental cues in persons with hearing impairment
n. Memory and speech perception: Stages of memory, coding and capacity at the different stages; Models of short term memory: Dual coding Model, Modal model, A model for auditory memory and contrast, Working memory model; Role of short term memory in the perception of consonants and vowels
o. Dichotic listening: Theories and physiological bases: Testing of dichotic listening and the clinical significance of the results; Factors influencing dichotic perception
p. Music perception: Methods of study of perception of music; Perception of music through amplification and implantable devices.
q. Infant perception: theories of infant speech perception (universal theory, attunement theory, perceptual learning theory, maturational theory, perceptual magnetic theory); methods of studying infant speech

perception;perception of consonants and vowels in infants, and comparison with adults

r. Speech perception in animals: methods of study of speech perception in animals; perception of consonants and vowels; categorical perception and normalization; animal vs. human perception; need for study of speech perception in animals
s. Methods to study speech perception: EEG/electrophysiological and behavioral methods to study speech perception; study designs; role of cognition in speech perception.

Auditory Processing Disorders

a. Terminologies and definitions of APD
b. Underlying neurobilogical and neurochemical (genetic) correlates
c. Relationship between neural maturation - degeneration and auditory processing
d. Models to explain auditory and spoken language processing: Relationship between the two
e. Methods of studying auditory processing - Animal studies
f. Various disorders that lead to APDs (Syndromes, TBIetc): Signs, symptoms and classification
g. Developmental communication disorders and APDs
h. Overview of behavioral assessment in APDs
i. Screening for APDs: questionnaires, checklists and tests
j. Dichotic test (linguistic and non-linguistic)
k. Monaural tests (linguistic and non-linguistic)
l. Psychoacoustic tests for assessment of APDs
m. Electrophysiological measures and their clinical applications in diagnosing APDs
n. Correlation between behavioral and electrophysiological measures: implications for diagnosis
o. Factors influencing assessment of APDs: behavioral and electrophysiological
p. Management of APDs in children and adults
q. Direct remediation techniques and meta-cognitive and meta-linguistic approaches
r. Auditory perceptual training and its methods, applicability and outcome.
s. Evidence based approach and treatment efficacy
t. Multidisciplinary approach
u. Signal enhancement and room acoustics
v. Aids and appliances - indication and outcome
w. Factors affecting management of APDs
x. Electrophysiological and radiological correlates for APDs: implications in management
y. Imaging and cognitive studies in APDs
z. Diagnosis and differential diagnosis
aa. Development of APD test materials (linguistic and non-linguistic)
bb. Open source software for developing diagnostic tests and intervention modules

Vestibular System and its Disorders

a) Peripheral vestibular system including semicircular canals, utricle, saccule and vestibular nerve
b) Central vestibular pathway (brainstem, cerebellum, cortex)
c) Reflexes involving vestibular system like vestibuloocular reflex, vestibulo spinal reflex and vestibulo colic reflexadvise
d) Other systems involved in maintenance of balance like proprioceptive system, visual system etc.

a) Techniques and Principles of electronystagmography / videonystagmography, Rotatory chair test, Video Head Impulse test, Sclera Coil search test, Vestibular Evoked Myogenic Potentials: cVEMP, oVEMP, Dynamic Posturography, Craniocorpography, Subjective visual vertical horizontal tests, Vestibular autorotation tests

b) Screening for vestibular disorders
c) Questionnaires to assess quality of life in persons with vertigo
a) Peripheral Vestibular Disorders like Benign paroxysmal positional vertigo, Meniere's disease, Vestibular neuritis, Labyrinthitis, Ototoxicity, vestibular neuropathy
b) Perilymph fistula, Superior semicircular canal dehiscence, Auditory neuropathy spectrum disorders, Vestibular schwannomas
c) Central Vestibular disorders like Generalized neuropathy involving multiple systems, Multiple sclerosis, Cranial tumors, Cerebro-vascular accidents involving vestibular cortex and cerebellum, Vertebro-basilar insufficiency, Migraine, Meningitis and encephalitis
d) Vestibular disorders in children
e) Age related changes in vestibular system
a) Benign paroxysmal positional vertigo, Meniere's disease, Vestibular neuritis, Labyrinthitis, Ototoxicity, Perilymph fistula, Superior semicircular canal dehiscence, Auditory neuropathy spectrum disorders, Vestibular schwannomas, Multiple sclerosis, Cranial tumors, , vestibular neuropathy
b) Quality of life in persons with vestibular disorders
a) Medical management
b) Surgical management
c) Vestibular rehabilitation:
d) Special considerations for rehabilitation of children with vestibular problems
e) Vestibular implants

Audiology in Practice

a. Scope of practice in global and Indian scenario
b. Professional ethics
c. Existing acts, legislations, policies related to persons with communication impairment
d. Role of audiologist in the formulation of acts, regulations and policies
e. Implementation of acts, legislations, policies and welfare measures relating to persons with hearing impairment
f. Advocacy groups and rights of citizens
g. National and international standards related to audiology
h. Welfare measures provided by State and Central Government for persons with hearing impairment
i. Need for specialized programs in audiology: Geriatric and persons with multiple disability
j. Forensic audiology
k. Health, wellness, and health care - Health promotion and disease prevention, quality of life and healthcare finances
l. Disability-friendly environment including public education
m. Prevention and early identification programs including societal participation
n. Services in different medical / rehabilitation/ research /educational set ups
o. School based services pertaining to regular and special schools
p. Community based practice in rural and urban areas
q. Family empowerment programs
r. Home based delivery of services
s. Autonomous practice in audiology
t. Apps for hearing screening/assessment
u. Information and communication technology in Audiology practice
v. Infrastructure for video-conferencing and tele-practice in audiology
w. Techniques/principles of remote testing for screening and diagnostic assessment for hearing, intervention and counseling
x. Challenges and limitations of tele-practice in audiology in screening, assessment and evaluation, selection of aids and appliances, therapeutics and counseling.

y. Medico-legal issues,
z. Entrepreneurship and planning to set up private practice/clinic for audiology practice:
aa. Clinical ethics
bb. Documentation in audiology practice: clinical / demographic data, database management and storage
cc. ICF framework for documentation / reports
dd. Quality control and auditing in audiology practice
ee. Documenting and implementing evidence based practice in audiology
ff. Understanding team approach: Work in cohesion with other professionals
gg. Information resources in audiology including books and journals, both electronic and print - Databases

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