Speech Science and Speech Production

a. Physiological aspects of speech production (respiration, laryngeal and articulatory subsystem)
b. Aerodynamics of speech: mechanics of airflow – laminar, orifice and turbulent flow: maintenance of airway pressure for speech
c. Speech breathing
d. Lower air way dynamics: anatomy, laryngeal and lung activity in speech: conversational speech and loud speech; glottal activity in the production of speech sounds and whisper
e. Upper airway dynamics: constrictors in upper airway; aerodynamics of speech sounds
f. Measures of respiratory analysis and instrumentation: intraoral and sub glottal pressure; instrumentation
g. Acoustic theory of speech production: source and filter characteristics; output speech and its characteristics
h. Critical evaluation of acoustic theory of speech production
i. Aspects of speech acoustics
j. Aspects of prosody and their realization
k. Characteristics and production of vocal music: Contrast with speech production
l. Acoustic analysis of speech - techniques of digital signal processing, Long Term Average Spectrum
m. Software for acquisition and acoustic analysis – freeware and patented software
n. Spectrogram: Identification of sounds and their acoustic features through spectrogram
o. Physiological measurements: Techniques and instrumentation like Electromyography Stroboscope, Electroglottography, Ultrasound, EMMA, evoked potentials, fMRI, PET
p. Acoustic and Aerodynamic Characteristics of Speech Sounds
q. Applications of acoustic analysis in speech disorders
r. Forensic applications: semiautomatic and automatic methods
s. Infant cry analysis- characteristics of normal and abnormal cries, models, infant cry as a tool for early identification of high-risk babies
t. Speech synthesis and its applications: articulatory, parametric synthesis and analysis by synthesis

Augmentative and Alternative Communication

a. Definition, history, need and classification of AAC
b. Team approach in AAC: Types, team members and their roles
c. Aided systems and symbols in AAC: different types and their details
d. Unaided systems and symbols in AAC: Different Types and their details
e. Technology in AAC:
f. Assessment of AAC Candidates: Models for assessment
g. Formal and informal assessment: Standard tests and scales
h. Considerations in other domains - physical/ motor and seating requirements, cognition, vision and hearing, speech perception
i. General Principles and Strategies – Aided and unaided AAC
j. Selection of vocabulary and symbol representation of the vocabulary: - types of vocabulary, factors affecting choice of vocabulary
k. Strategies for selection of symbols in AAC, their types and factors affecting decision making: direct selection, scanning, encoding, word prediction
l. Selection and decision making with reference to low and high tech aids and devices
m. Specific intervention strategies for children with cognitive communication needs: (intellectullychallenged, cerebral palsy, children with language disorders and children with dual and

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multiple disabilities).

n. Specific intervention strategies for adults with cognitive communication need
o. Measuring outcomes in using AAC and evidence based practices
p. Use of technology: Hardware and software (applications) in intervention for children and adults with communication disorders
q. Current status of AAC in India and scope for research
r. Adaptation of AAC in different set ups: home, schools, work place, and other social situations
s. Training in the use and application of AAC for parents and caregivers

Neurobiology of Speech-Language and Cognition

a. Review of central nervous system and peripheral nervous system, cortical and subcortical pathways
b. Blood supply to CNS
c. Neurotransmitters – types and classification, major location, functions and synthesis / chemical composition; signal propagation in the nervous system
d. Neurotransmitters in neuropathological conditions influencing speech, language and related disorders
e. Brain plasticity
f. Functional organization of brain – lateralization of functions
g. Evidence from neuroimaging studies on speech perception, comprehension and production
h. Clinical examination of neurological status - history, physical examination, reflexes
i. Neuro-diagnostic procedures for routine clinical examination – cranial nerve examination, sensory & motor examination, examination of mental functions
j. Neuro-imaging procedures: X-Ray, CT scan, MRI, fMRI, TcMS, PET, SPECT, and others - advantages and disadvantages
k. Neuro-physiological procedures - Evoked potentials (visual, auditory and somato-sensory), eye-tracking. eletromyography (EMG), magnetoencephalography (MEG) - Advantages and disadvantages
l. Neuro-behavioral procedures - neurolinguistic investigation, priming and its types, reaction time measures and other related procedures
m. Types and Models of Attention - Broadbent's Bottleneck Model, Norman and Bobrow's Model, Treisman model, Deutsch and Deutsch model.
n. Types and Models of memory (Atkinson and Shiffrin'smultistore Model, Craik and Lockhart's Levels of Processing model, Baddley's Working Memory model)
o. Role of attention and memory in the development of speech and language - models of cognitive-linguistic process (hierarchical, process, interactive, computational, neural network); bilingual models (simultaneous and sequential processing)
p. Neural network of speech perception, semantic processing and sentence comprehension - Spoken word recognition, auditory word recognition, visual word recognition, sentence processing and discourse comprehension
q. Neural basis of speech production (sound, syllable, word and sentences)
r. Evidence from research studies - behavioral, neuroimaging and evoked potentials studies in normals and persons with neurological disorders
s. Neural basis for cognitive processes and its relation to language processes
t. Neural network for reading, writing and spelling
u. Representation of languages in the brain – Monolingual, bilingual and multilingual
v. Aging - definition, types- (senescence and senility, primary and secondary aging, biological and psychological aging), phenomenon of aging (neurological, cognitive and behavioral correlates, structural changes with age, brain weight, ventricular size, microscopic changes and atrophy).
w. Theories of aging - cellular, genetic, cumulative, random cell damage, programmed cell death, high level control of aging, cellular theories, geriatric theories and other theories
x. Neurophysiological / functional changes with age: accuracy, speed, range, endurance, coordination, stability and strength; neurobehavioral correlates of aging -lateralization of functions across life span,

cerebral asymmetry, electrophysiological and behavioral evidences
y. Effects of aging on speech and language across life span: in typical and pathological conditions.
z. Effect of aging on cognitive dimension and speech perception

Clinical Linguistics and Multilingual Issues

a. Introduction to clinical linguistics and scope of linguistics in clinical field.
b. Principles of general linguistics and their clinical relevance.
c. Phonological acquisition and disorders
d. Semantic acquisition and disorders
e. Grammatical acquisition and disorders
f. Pragmatics – Theoretical background: Discourse, deixis, anaphora, maxims and truth relations
g. Discourse comprehension
h. Dicourse analysis/Narrative analysis in neurotypical adults and persons with disorders
i. Development of pragmatics in children
j. Pragmatic disorders with respect to some clinical disorders
k. Sociolinguistic concepts relevant to speech-language pathologists (language and dialects issues, various types and dialects, diglossia, stylistic variation of language-registers, Language contact-Creoles, Pidgins, language maintenance, language shift and language death, language deficiency)
l. Issues involved in language acquisition – Motherese /child directed speech
m. Models of second language acquisition
n. Language acquisition in bi- and multi-lingual environments – concepts related to proficiency, dominance etc; issues and implications for assessment and intervention
o. Psycho linguistic models of language pathology
p. Introduction to neurolinguistics
q. Language and lateralization – left brain and right brain differences
r. Coding and decoding
s. Neuroanatomical and neurophysiological bases of language learning and dysfunction
t. Mechanism and bases of recognition of spoken and visual word, sentence processing and discourse comprehension.
u. India as a multilingual nation– A brief introduction to the major language families of India
v. Relation between language and culture, language and thought relationship in view of Sapir-Whorf hypothesis: linguistic determinism and linguistic relativity
w. Cultural issues in verbal and non-verbal communication
x. Multicultural and multilingual issues in rehabilitation with special reference to India

Advances in Speech Sound Disorders

a. Recent concepts in theories of phonological development: Generative phonology, natural phonology, non-linear phonology, optimality theory
b. Application of phonological theories in evaluation and management of phonological disorders
c. Co-articulation – Types (anticipatory, carryover); Models of co-articulation - feature based, syllabic, allophonic, target, physiological and degree of articulatory constriction models); Physiological / Acoustical / Perceptual studies in co-articulation
d. Current concepts in taxonomy of speech sound disorders in children
e. Comprehensive phonological assessment procedures – Formal and informal; Independent and relational analyses; dynamic assessment
f. Assessment of phonological awareness and phonological processing in children with speech sound disorders
g. Critical appraisal of test material in Indian context - Specific issues in phonological assessment in

multilingual environments
h. Determining need for intervention and intervention decisions
i. Evidence based approaches to intervention – Motor based approaches, linguistic based approaches; use of non-speech oro-motor activities
j. Motor learning principles – applications to interventions
k. Considerations in intervention: methods to measure clinical change and determining progress in therapy and generalization
l. Specific considerations in intervention within multilingual contexts.
m. Use of software applications (Apps) in intervention; Use of tele-health for intervention of speech sound disorders
n. Phonological development in children with CLP
o. Development of other language attributes (morphology, semantics, syntax, pragmatics)
p. Velopharyngeal Closure- normal physiology, parameters affecting velopharyngeal closure and nature of velopharyngeal dysfunction in persons with CLP
q. Perceptual assessment protocols for speech characteristics in children with repaired CLP
r. Instrumental assessment of velopharyngeal closure- Imaging techniques, acoustic measurements, aerodynamic measurements
s. Surgical, orthodontic and prosthodontic management in CLP.
t. Early intervention for children with CLP – Methods and studies related to efficacy
u. Speech and language therapy for persons with velopharyngeal dysfunction
v. Current evidence based practices in assessment and management of CLP

Voice: Science and Disorders
a. Vocology – scope and objectives
b. Breathing and voicing: lungs and airways, breathing mechanism as an interactive sound generating system: breathing oscillator &valving oscillator, combining the breathing and valving oscillators with voicing
c. Vocal folds and voice: Biology of vocal fold tissue and lamina propria, muscular properties and vocal behaviours, biomechanics and voice control/modulation, voice fatigue, vocal injury and recovery, wound healing
d. Resonance and voice: concepts of acoustic impedance, reactance, inertance, and compliance, acoustic impedance of the vocal tract, the effect of vocal tract reactance on self-sustained vocal fold oscillation, idealized vocal tract shapes and voice quality, modulating phonation with articulation and prosody
e. Vocometry: assessing vocal ability: principles, methods and procedures: General assessment principles, evaluation procedures, tools of measurement, purpose of measurement, measurement scales, auditory perceptual evaluation- speech breathing, voice quality, resonance, and overview of instrumentation for voice assessment: visualization techniques, acoustic analysis, aerodynamic analysis, glottography, nasometry and electromyography
f. Voice disorders: issues in definition, incidence and prevalence, occupational risks and voice disorders
g. Classification of voice pathologies, characteristics and pathophysiology: Structural, neuropathologic, idiopathic, functional/behavioral - pathologies related to mechanical stress, tissue elasticity, fluid transport, airway environment and abnormal muscle activation
h. Voice disorders in specific populations: Laryngectomy, pediatric voice disorders, aging voice, professional voice, vocal cord dysfunction/paradoxical vocal fold motion, transgender and trans-sexual voice
i. Voice management team, roles and functions
j. Pharmacological and surgical effects on voice: Current trend in medical and surgical management: Medications for bacterial and other infections, allergies, edema, pain, asthma, cough, gastric and laryngopharyngeal reflux, stage fright, spasmodic dysphonia, mood conditions, sleep disturbance, hormone imbalances, etc. Voice surgeries – pre-operative and post-operative care and precautions

k. Voice habilitation: Current views and approaches; EBP for voice and its disorders; Voice therapy methods for children and adults.
l. Voice exercise principles and procedures: Physiological voice therapy methods Vs. Behavioral voice therapy methods, role of vocal hygiene and voice rest, basics of exercise physiology, general principles, types of exercises, exercise prescription and progress, vocal exercise techniques – vocal function exercises, resonant voice exercise, confidential voice therapy, and other voice exercises including psychological approaches, relapse and restoration
m. Habilitation of persons with laryngectomy: Speech and medical considerations in laryngectomy, voice restoration in laryngectomees, counseling and quality of life
n. Vocal professionals and voice disorders: classification, pathologies affecting voice – frequency, personal and social impacts, occupational hazards and issues, nature of voice problems: repetitive strain injuries, acute injuries and chronic problems – presentation, assessment and treatment
o. Laryngeal rest, modified voice rest/conservative voice use, vocal hygiene; laryngeal rest versus exercise: effects on wound healing, general wound healing processes
p. Voice habilitation for singers and other elite vocal users: Demands on voice, nature of vocal training and use, voice fatigue and assessment, basic principles of motor learning, awareness training, and vocal exercises, concept of professional voice care team – role of medical and non-medical team players
q. Voice habilitation for teachers: voice problems in teachers: nature and manifestation, use of voice in classroom and factors influencing, vocal loading and assessment, vocal fatigue, techniques to improve the speaking voice and delivery, voice projection techniques, vocal education and counseling

r. Scope of practice in the area of voice – training in endoscopy, documentation, telepractice: trends across globe and in India (practice guidelines, technical reports, position statements, knowledge and skills document relevant to voice as per RCI, ASHA, European Laryngologiocal Society, and other relevant professional/statutory body).Issues in adopting and implementing the same in India.
s. Patient compliance and concordance to voice management: Relevance of voice problems/voice problems as a public health concern, measuring severity of voice condition, measurement of compliance to management options, treatment variables and effects, patient-clinician interactions, socio cultural and economic considerations
t. Voice clinics: SLP led clinics Vs. SLP in a medical team, space and other infrastructural requirements, specialty clinics considering needs of specific population such as singers, transgenders, transsexuals, non-native speakers, broadcasters, etc
u. Research and ethics in clinical practice: overview of basic and applied research in voice, ethics in clinical research, informed consent, clinical trials, methods to popularize services- roles of associations, conferences, working groups, awareness movements/drives like world voice day, camps, public awareness programs, role of media, prevention of voice problems.

Disorders of Fluency

a. Dimensions of fluency disorders- recent advances; Supra segments
b. Development of fluent speech: Factors affecting fluency of speech
c. Theories of stuttering - linguistic, articulatory, audiological, laryngeal and genetic predisposition
d. Neuro anatomical, neuro-physiological bases of fluency disorders
e. Cortical activation patterns in stuttering - aneuromotor problem
f. Stuttering as a timing disorder
g. Feedback and feed-forward models of stuttering.
h. Normal non-fluency and developmental stuttering
i. Cluttering- causes and characteristics
j. Neurogenic, Psychogenic and other types of fluency disorders
k. Stuttering in persons with multiple disability
l. Objective tools for assessment of fluency and its disorders

m. Subjective and perceptual assessment
n. Electrophysiology in the evaluation of fluency disorders
o. Functional radiological studies of stuttering
p. Cognitive dimension of stuttering
q. Diagnosis and differential diagnosis
r. Spontaneous recovery and relapse
s. Principles of therapy; skill training
t. Approaches to management of fluency disorders in adults and children
u. Group therapy
v. Input from allied professionals in the management of fluency disorders
w. Behavioral and work-place management
x. Counseling - including parents and teachers
y. Social help and advocacy groups
z. Apps based and other innovative modes including telemode.
aa. Relapse and recovery pattern in fluency disorders
bb. Efficacy and outcome measures of fluency therapy
cc. Evidence based practice
dd. Bilingualism / multilingualism relating to stuttering and cultural sensitivity
ee. Ethics in research and management of stuttering

Language Disorders in Children

a. Critically evaluate theories of language acquisition- biological maturation, linguistic, cognitive, information processing and social theory - implications of theories for assessment and intervention)
b. Types of bi / multilinguals; Nature of bi/multiligualism in India;
c. Language acquisition in bilingual / multilingual / atypical children
d. Normal process of second language acquisition
e. Variables in second language acquisition: cognitive-linguistic and affective
f. Genetic and chromosomal abnormalities
g. Motor and sensory deficits
h. Language disorders associated with pre-maturity and or high risky infancy
i. Prenatal exposure to alcohol and other drugs
j. Intellectual disabilities
k. Acquired language disorders: causes, incidence and prevalence of acquired language disorders globally and in India; defining characteristics - cognitive communication deficits
l. Specific Language Impairment - causes, incidence and prevalence of primary language
m. disorders/ specific   globally and in India and defining characteristics, differential
n. diagnosis - cognitive communication deficits
o. Introduction and classification (ICD10; DSM V)
p. Etiology, warning signs, defining characteristics, incidence and prevalence of Autism – national and international
q. Symbolic abilities and social aspects of communication
r. Language outcome in autism management – theoretical issues
s. Theory of mind – second order representation
t. Other diagnosis on the autism spectrum and associated disorders
u. Assessment and diagnosis of autism spectrum disorders- norm-referenced and criterion referenced tools; checklists and informal assessment tools used in India (ASIA, MISIC, INCELN tool etc.) and globally
v. Prognosis and treatment – applied behavioral analysis, peer mediated interactions, floor time / developmental individual difference relationship based model, social-communication, emotional regulations abilities and transactional supports, responsive teaching, relationship development intervention, Hanen approach, Treatment And Education of Autistic and Related Communication Handicapped Children, Picture exchange communication system, Com-DEAL and diet management.

w. Introduction and classification (ICD 10, DSM V)
x. Causes, incidence and prevalence of ADHD globally and in India
y. Characteristics of different types
z. Relationship of ADHD to language and or learning disabilities
aa. ADHD and other labels, adolescents with ADHD
bb. Assessment and diagnosis of ADHD - norm-referenced and criterion referenced tools; checklists and informal assessment tools used in India and globally
cc. Treatment of ADHD- areas of treatment – communication deficits academic issues, memory deficits, behavioral, medical and social issues

dd. Critical review of developmental scales and norm-referenced tools for language development for Indian languages
ee. Differential diagnosis of child language disorders
ff. General principles and approaches to management in child language disorders.
gg. Evidence-Based Practice and Response-to-Intervention in child language disorders
hh. Team approach, guidance and counseling
ii. Presence of comorbid features like swallowing / apraxia etc. and their assessment
jj. Parent empowerment/ Parent implemented intervention for language delay/disorders
kk. Use of AAC in the management of child language disorders
ll. Rights of children with language disability

Neurogenic Speech Disorders

a. Review of neuroanatomical substrates of speech motor control- motor and sensory cortex, subcortical, cerebellar and brain stem structures and their pathways; cranial nerves and peripheral nervous system, types of mechanoreceptors and their topography in speech
b. Early models of speech motor control: Closed Loop, Open Loop, Associative Chain and
c. Serial Order Model, Schema Theory, Task Dynamic Model, Mackay's Model, Gracco's Model,
d. C) Recent Models of Speech Motor Control: DIVA Model
e. Other speech control models related to development of speech motor control in children
f. Age related changes in speech motor control
g. Perceptual methods: Rating scales and tests for speech parameters, prosody, speech intelligibility, comprehensibility and naturalness.
h. Recent advances in use of aerodynamic and acoustic analysis of speech among persons with dysarthria
i. Other physiological analyses of speech subsystems in persons with dysarthria
j. Behavioural approaches for treatment of speech subsystems affected in persons with dysarthria
k. Evidence based practice guidelines for management of dysarthria in adults
l. Behavioral approaches to correct posture, tone, and strength and sensori-motor treatment techniques
m. Specific behavioral approaches in developmental dysarthria: McDonald's Approach and Hardy's Approach
n. Application of facilitatory approaches (neurodevelopmental approach and methods for reflex inhibition) in the management of developmental dysarthrias– evidence base for facilitatory approaches
o. Assessment for suspected apraxia of speech, apraxia of speech and non-speech apraxia: Perceptual assessment protocols; physiological assessment of speech in adults with AOS
p. Intervention methods for non-verbal apraxias
q. Intervention for AOS in adults: specific, programmed and nonspecific approaches – Evidence based practice
r. Motor learning principles – applications in intervention of AOS
s. Current status of nature of CAS as primary disorder and CAS as co-morbid condition in other neurodevelopmental disorders
t. Assessment protocols for CAS and differential diagnosis from other speech sound disorders
u. Intervention approaches for CAS – Evidence based practice

v. Motor learning principles – applications in intervention of CAS

Dysphagia
a. Structures involved in three phases of swallow and peripheral nervous system control of mastication and swallowing (anatomy & physiology of three phases & cranial nerve innervation)
b. Central nervous system control for mastication and swallowing
c. Etiologies for dysphagia in adults (structural anomalies, neurological conditions, mechanical & motility)
d. Age-related changes in eating & swallowing.
e. Clinical assessment of swallowing: Clinical bedside evaluation, various published protocols for clinical examination, cervical auscultation for clinical examination
f. Visual examination of swallowing and its disorders: modified barium swallow/videofluroscopic study of swallow, flexible endoscopic examination of swallowing – team for conducting assessment, procedure and interpretation
g. Other instrumental evaluation (e.g., X Ray, Scintigraphy, Manometry, Transnasalesophagoscopy, acoustic analysis of swallowing)
h. Self-report questionnaires and quality of life assessment for dysphagia
i. Differential diagnosis - oral vs. pharyngeal dysphagia, prognostic variables and recommendations for oral/non-oral options for nutritional intake/ management.
j. Behavioral management - Compensatory and facilitatory strategies in detail
k. Other behavioral management strategies (e.g., neuromuscular electrical stimulation)
l. Pharmacological and surgical management of dysphagia
m. Specific management strategies for mechanical causes of dysphagia (tracheostomy, glossectomy, mandibulectomy, oral/ pharyngeal cancer, trismus etc.)
n. Evidence Based Practice (EBP) - levels of evidence, strengths and weaknesses, evidence base for various management approaches, evaluation of patient progress and treatment efficacy - when to continue treatment, when to terminate and when referrals are appropriate)
o. Anatomical differences in neonatal and pediatric upper aero digestive tract with reference to adults, Oral-motor and swallow development of infants and children
p. Clinical manifestations of feeding and swallowing difficulties in children
q. Motor and sensory issues in feeding/ swallowing among developmental conditions-Sensory based feeding disorders and special populations
r. Specific considerations for clinical and instrumental evaluation of swallowing in children
s. Direct and indirect strategies to facilitate safe swallow in children (including motor and sensory issues)
t. SLP in Neonatal Intensive Care Unit: Etiology of feeding delay/disorders in neonates; assessment of primitive reflexes, suck-swallow coordination among neonates, management of feeding delay/disorders in neonates
u. Scope of practice in the area of dysphagia: training in endoscopy, documentation, tele-practice
v. Trends across the world and in India: Review of practice guidelines, technical reports, position statements, knowledge & skills document relevant to dysphagia in India and other countries - issues in adopting and implementing the same in India.
w. Dysphagia clinics: SLP led clinics vs. SLP in a medical team, space and other infrastructural requirements within hospital setup, private clinics, schools and other centers.
x. Esophageal dysphagia – etiologies, symptoms, differential diagnosis and role of SLP in management.
y. Ethical and cultural considerations in dysphagia management

Aphasia

a. Neuroanatomical basis of major types of aphasias, key brain regions, aphasia case studies ,lesion-deficit relationships, different types of agnosias.
b. Classification of aphasic syndromes

c. Phonological aspects of aphasia: sound structure of language: A theoretical framework; speech production; speech perception
d. Lexical deficits in aphasia: functional architecture of the lexical system; aspects of the internal structure of the functional components
e. Syntactic deficits in aphasia: sentence production; conceptions of normal production; models to understand syntactic deficits in aphasia; sentence comprehension: a framework for normal comprehension, sentence comprehension Impairment in Aphasia

f. Formal and informal assessment tools both Indian and western their logic, purpose, test constructs, rationale, scoring, procedures and interpretation. Do's and don'ts in assessment procedures
g. Methods for studying language and the brain- neuroimaging and cortical potentials electroencephalography, magnetoencephalography, positron emission tomography,
h. functional magnetic resonance imaging, N400 and T complex d) Differential diagnosis of different types of aphasia
i. Anagraphical, neurological and Speech Language therapy and recovery
j. Plasticity and recovery in aphasia: concepts of plasticity and recovery
k. Prognostic factors; bio-chemical and physiologic mechanisms of recovery
l. Structural mechanisms; behavioral mechanisms and language recovery in brain
m. Link between plasticity, behavior and therapy; re-conceptualizing aphasia and aphasia therapy
n. Recovery pattern in monolingual, bi/multilingual aphasia

o. Introduction to acquired disorders of reading: dual route models; connectionist models
p. Acquired alexia; assessment and intervention of acquired reading disorders
q. Written language and its impairments: classification of written language disorders
r. Neuroanatomical substrates of writing
s. Assessment of writing disorders and intervention approaches to writing disorders
t. Aphasia in bilinguals/multilingual population- definition and features
u. Aphasia in illiterates, left handers and sign language users- definition and features

v. Introduction to language intervention strategies in adult aphasia
w. Psychosocial/functional, traditional, specialized, life participation approach to aphasia, social approaches to aphasia, quality of life approach to aphasia, team and partnerships in aphasia intervention, treatment manuals in Indian context.
x. Computer applications in the treatment of aphasia, tele-rehabilitation and constant therapy
y. Treatment of swallowing, use of AAC in aphasia
z. Medical aspects of rehabilitation and rights of persons with aphasia

Language and Literacy Disorders

a. Concepts related to reading and its acquisition – Decoding, reading accuracy, reading fluency, reading comprehension;
b. Differences among writing systems for languages; Importance of phoneme-grapheme correspondence for reading
c. Foundations for development of reading in languages with different writing systems
d. (Phonological processing, phonological awareness, orthographic skills, visual processing skills, oral language skills);
e. Role of oral language in the acquisition of literacy – Aspects of oral language contributing to decoding (e.g., vocabulary and morphosyntax) and reading comprehension (e.g., syntax, syntactic awareness etc.) and spelling (e.g., morphological awareness)
f. Stages of reading and writing development – emergent literacy to proficient reading comprehension; Models of reading development in English /alphabetic script and other writing systems.
g. Definition and differences among underachievement in school, learning disability, reading disability, dyslexia, dysgraphia, dyscalculalia, language learning disability, language impairment/ specific

language impairment; DSM V and ICD 10 classifications; challenges in use of classifications.

h. Linguistic characteristics of students with reading/language/learning disabilities
i. Issues related to co-morbidity and overlap among phonological disorders, specific language disorders, reading disability and auditory processing disorders with relation to development of reading
j. Genetics of literacy disorders (family risk, molecular genetics etc.).

k. Screening of children for language disorders in schools; Standardized tests to assess language and (English and other languages) in children 5-18 years
l. Other forms of assessments to identify children with language/learning disabilities - Criterion referenced assessments, language sampling, portfolio, dynamic assessment, curriculum-based assessment etc.
m. Specific assessment tools for learning disability in India (e.g., NIMHANS battery, Dyslexia Assessment for Languages in India and other published tests)
n. Informal assessment of different domains – Tasks and stimuli in specific languages for phonological awareness, orthographic skills, phonological processing, oral language skills etc.
o. Brief overview of assessment of associated areas (auditory processing, visual processing, memory etc.)

p. Intervention approaches to promote emergent literacy
q. Intervention approaches to promote decoding and early reading skills
r. Intervention approaches to promote development of reading comprehension
s. Intervention approaches to promote spelling and written language output
t. Research on cross-linguistics issues in intervention; intervention for children with Bilingual / multilingual background and reading intervention
u. Modes of service delivery for school-aged children (clinical, consultative, collaborative, language-based classroom, peer-mediated)
v. Team members working children with literacy disorders; Response to Intervention– tiers and their role in instruction for poor readers; role of SLP in Response to Intervention
w. Acts, regulations and policies relevant to education and children with special needs in India (e.g., Right to Education Act, Sarva Siksha Abhiyan, regulations related to language exemption in examination, National Open School system).
x. Dyslexia associations/groups in India

Cognitive-Communication Disorders

a. Cognition- description of cognitive processes, mapping, mechanisms, concept, schema and properties
b. Models of memory, cognitive-linguistics processes
c. Cognitive communication disorders associated with TBI, disability following TBI- WHO-
d. ICF classification, assessment and principles of cognitive rehabilitation of TBI
e. Nature, assessment and management of various cognitive communication deficits in RHD

f. Neuropathology in Alzheimer's Disease (AD, evaluation and intervention of cognitive communication disorders in AD and other dementias
g. Cognitive communicative aspects in primary progressive aphasia (PPA), evaluation and management of PPA
h. Role of speech-language pathologist working with persons with dementia
i. Cognitive communication deficits in alcohol induced and metabolic language disorders
j. Assessment and management of body structure and function: quantifying and qualifying cognitive communication disorders of alcohol induced and metabolic disorders
k. Assessment of swallowing in persons with cognitive communication disorders
l. Differential diagnosis of cognitive communication disorders in adults
m. Theories aging, and age related changes of the organ system, and cognition
n. Psychological- death and bereavement, personality development and quality of life
o. Physical changes and performance- range of motion, strength, endurance praxis, performance work

p. Aging speech- voice, resonance and articulation and swallowing
q. Language and cognitive aging: primary, secondary and tertiary aging factors
r. Language as socio-cultural phenomena in aging
s. Role of supportive relationships in cognitive communication disorders
t. Cognitive communication approaches in rehabilitation
u. Role of AAC in the intervention of cognitive communication disorders
v. Team and partnerships in cognitive communication disorders
w. Rights of persons with cognitive communication disorders

Speech-Language Pathology 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 speech-language pathologists in the formulation of acts, regulations and policies
e. Implementation of acts, legislations, policies and welfare measures relating to persons with speech-language impairment
f. Advocacy groups, NGOs
g. Rights of citizens
h. National and international standards related to Speech-language pathology

i. Need for specialized programs in Speech-language pathology: Geriatric and persons with multiple handicaps
j. Other specializations (medical speech language pathology, forensic speech science)
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. Culture and religion sensitive practice in speech-language practice
n. Multilingual and multicultural sensitivity in therapeutics and management
o. Prevention and early identification programs including societal participation
p. Services in different medical / rehabilitation/ research /educational set ups
q. School based services pertaining to regular and special schools
r. Community based practice in rural and urban areas
s. Family empowerment programs
t. Home based delivery of services
u. Autonomous practice in speech-language pathology
v. Services for other groups of professionals (professional voice users)
w. Information and communication technology in speech-language pathology practice
x. Infrastructure for video-conferencing and tele-practice in Speech-language Pathology
y. Techniques/principles of remote testing for screening and diagnostic assessment for speech-language, intervention and counseling
z. Challenges and limitations of tele-practice in Speech-language Pathology in screening, assessment and evaluation, selection of aids and appliances, therapeutics and counseling.
aa. Entrepreneurship and planning to set up private practice/clinic for speech-language pathology practice: Clinical ethics
bb. Documentation in speech-language pathology practice: clinical / demographic data, database management and storage
cc. ICF framework for documentation / reports
dd. Quality control and auditing in speech-language pathology practice
ee. Documenting and implementing evidence based practice in speech-language pathology
ff. Understanding team approach: Work in cohesion with other professionals
gg. Information resources in speech-language pathology including books and journals, both electronic and print - Databases - Evidence based practice: Changed scenar