MANIPAL
ACADEMY of HIGHER EDUCATION
(Deemed to be University under Section 3 of the UGC Act, 1956)

Manipal College of Health Professions

Manipal Academy of Higher Education, Manipal

Outcome-Based Education (OBE) Framework

Four years Full time

Undergraduate Program

Bachelor of Audiology and Speech - Language Pathology (B.ASLP)

With effect from July 2020

T A B L E O F C O N T E N T S

Head of the Department **Dean**

Deputy Registrar - Academics **Registrar**

1. NATURE AND EXTENT OF THE PROGRAM

Background and need for the program:

Audiology is a branch of science that deals with hearing, balance and related disorders. Speech and Language Pathology deals with the normal and abnormal aspects of voice, speech, language and swallowing. Students of Bachelors in Audiology and Speech Language pathology are educated regarding the anatomy and physiology of the normal and abnormal auditory and various systems involved in production of speech, language and swallowing. They are trained in assessing & identifying individuals with hearing loss, differential diagnosis of auditory disorders encompassing disorders of the middle ear, inner ear, auditory nerve and the central auditory nervous system. They are also trained in diagnosis, differential diagnosis and management of voice, speech language and swallowing disorders, which include misarticulation, stuttering, speech and language problems associated with hearing impairment, mental retardation, cerebral palsy, cleft palate, autism spectrum disorders, laryngectomy, stroke/paralysis, dysphagia and learning disorders. The students are trained to develop expertise in audiological rehabilitation, which includes recommendation of amplification devices such as hearing aids, cochlear implants and speech language therapy for individuals with hearing impairment. They also learn to cater to the needs of individuals with special needs such as those with tinnitus, auditory processing disorders etc.

Program duration and aim of the program:

The Course-Bachelor of Audiology and Speech Language Pathology (B.ASLP), is a full-time four-year course including one year mandatory internship. The department, in its academic planning has kept an excellent balance between theoretical and clinical training so as to develop both professional judgment and scientific competence for the trained audiologist and speech language pathologist. The aim of the program is to train a competent Audiologist and/or Speech Language Pathologist who can practice audiology and Speech Language Pathology.

Entry level qualification and scope of the program (career opportunities):

Candidates applying for admission to B.ASLP course should have passed 10+2 examination or equivalent / two years of Pre-University/Pre-Degree examination conducted by the Pre University Board of Education of Government of respective States. The applicants/ candidates should have studied: Physics, Chemistry & Biology / Mathematics / Computer Science / Statistics / Electronics / Psychology. They should have obtained 50% in Physics, Chemistry & Biology / Mathematics or 80 % in Physics, Chemistry & Computer Science /

Statistics / Electronics / Psychology. At the time of entry/admission to the first semester B.ASLP course they should be of age 25 years as on 1st July of the admission year.

As per the Rehabilitation Council of India (RCI), the statutory body regulating training programs in the specialty, minimum entry level qualification for professional practice is bachelor degree in audiology and speech language pathology. With degree obtained from RCI recognized institutions, the graduates can register under RCI to get CRR number, which is mandated for practice. Job opportunities are available for audiologists and speech language pathologists, both in India and overseas in the following set ups:

- Academic Universities, colleges as Faculty, Clinical Supervisors, Researchers
- Medical Hospitals/Clinics (General hospitals, Ear Nose Throat, Pediatric or Neurology clinics)
- Special Schools for children with hearing impairment, mental retardation, cerebral palsy, autism, learning disability or others
- Normal schools
- Hearing aid/cochlear implant industries
- Hearing conservation program in industries (as industrial audiologist)
- Private practice

The program is offered as **credit** and **semester** based. This core curriculum is as per the RCI regulation or norms, therefore, the program electives are not planned. However, open electives are introduced in the III and V semester. These electives are **choice based**, where the students can select the electives offered by MAHE.

2. PROGRAM EDUCATION OBJECTIVES (PEOs)

The overall objectives of the learning outcome-based curriculum framework (LOCF) for Bachelor in Audiology and Speech-Language Pathology Program are as follows:

PEO No.	Education Objective
PEO 1	Students will be able to use their fundamental knowledge and clinical competence in assessment, management and rehabilitation to function as Audiologist and Speech Language Pathologist to achieve professional excellence.
PEO 2	Students will be able to screen, evaluate, diagnose and assess the severity of different disorders related to speech, language, swallowing and hearing, manage speech, language, swallowing and hearing disorders across life span.
PEO 3	Students will be able to practice and advocate the profession with highly professional and ethical attitudes, strong communication skills, and effective professional skills to work in a inter-disciplinary team.
PEO 4	Students will be able to imbibe the culture of research, innovation, entrepreneurship.
PEO 5	Students will be able to participate in lifelong learning process for implementing Evidence Based Practice in speech, language, swallowing and hearing disorders.

3. GRADUATE ATTRIBUTES

S No.	Attribute	Description
1	**Professional Knowledge**	Demonstrate scientific knowledge and understanding to work as a health care professional in Audiology and Speech Language Pathology.
2	**Clinical / practical skills**	Demonstrate Clinical / practical skills in order to implement the preventive, assessment and management plans for quality health care services in Audiology and Speech Language pathology.
3.	**Communication**	Ability to communicate effectively and appropriately in writing and orally to patients/clients, care-givers, other health professionals and other members of the community
4.	**Cooperation/Team work**	Ability to work effectively and respectfully with interdisciplinary team members to achieve coordinated, high quality health care
5.	**Professional ethics**	Ability to identify ethical issues and apply the ethical values in their professional life
6.	**Research / Innovation-related Skills**	A sense of inquiry and investigation for raising relevant and contemporary questions, synthesizing and articulating.
7.	**Critical thinking and problem solving**	Ability to think critically and apply learning to real-life situations
8.	**Reflective thinking**	Ability to employ reflective thinking along with the ability to create the sense of awareness of one self and society
9.	**Information/digital literacy**	Ability to use ICT in a variety of learning situations
10.	**Multi-cultural competence**	Ability to effectively engage in a multicultural society and interact respectfully
11.	**Leadership readiness/qualities**	Ability to respond in an autonomous and confident manner to planned and uncertain situations, and being able to manage themselves and others effectively
12.	**Lifelong Learning**	Every graduate to be converted into lifelong learner & to consistently update himself or herself with current knowledge, skills and technologies. Acquiring Knowledge and creating the understanding in learners that learning will continue throughout life.

4. QUALIFICATION DESCRIPTORS:

a) Demonstrate (i) a fundamental and systematic knowledge and understanding of an academic field of study as a whole and its applications, and links to related disciplinary areas/subjects of study; including a critical understanding of the established theories, principles and concepts, and of a number of advanced and emerging issues in the field of Audiology and Speech-Language Pathology; (ii) Procedural knowledge that creates different types of professionals related to Audiology and Speech-Language Pathology, including research and development, teaching and in government and public service; (iii) Professional and communication skills in the domain of Audiology and Speech-Language Pathology including a critical understanding of the latest developments, and an ability to use established techniques in the domain of Audiology and Speech-Language Pathology.

b) Demonstrate comprehensive knowledge about Audiology and Speech-Language Pathology, including current research, scholarly, and/or professional literature, relating to essential and advanced learning areas pertaining to the field of study, and techniques and skills required for identifying problems and issues.

c) Demonstrate skills in i) identifying the issues in the field of Audiology and Speech-Language Pathology; ii) collection of quantitative and/or qualitative data relevant to client's needs and professional practice; iii) analysis and interpretation of data using methodologies as appropriate for formulating evidence based hypotheses and solutions

d) Use knowledge, understanding and skills for critical assessment of a wide range of ideas and complex problems and issues relating to Audiology and Speech-Language Pathology

e) Communicate appropriately with all stakeholders, and provide relevant information to the members of the healthcare team

f) Address one's own learning needs relating to current and emerging areas of study, making use of research, development and professional materials as appropriate, including those related to new frontiers of knowledge

g) Apply one's disciplinary knowledge and transferable skills to new/unfamiliar contexts and to identify and analyse problems and issues and seek solutions to real-life problems

5. PROGRAM OUTCOMES (POs):

After successful completion of Bachelor in Audiology and Speech-Language Pathology (B.ASLP) program, students will be able to:

PO No.	Attribute	Competency
PO 1	**Professional knowledge**	Possess and acquire **scientific knowledge** to work as Audiologist and/or Speech Language Pathologist
PO 2	**Clinical/ Practical skills**	Demonstrate and possess **clinical / practical skills** to provide quality health care services for speech, language, swallowing and hearing disorders
PO 3	**Team work**	Demonstrate **team work skills** to support shared goals with the interdisciplinary health care team to improve societal health
PO 4	**Ethical value & professionalism**	Possess and demonstrate **ethical values and professionalism** within the legal framework of the society and statutory regulations
PO 5	**Communication**	**Communicate effectively** and appropriately with the interdisciplinary health care team and the society
PO 6	**Evidence based practice**	Demonstrate high quality **evidence based practice** that leads to excellence in professional practice in speech, language, swallowing and hearing disorders
PO 7	**Life-long learning**	Enhance knowledge and skills with the use of advancing technology for the **continual improvement** of professional practice in speech, language, swallowing and hearing disorders
PO 8	**Entrepreneurship, leadership and training**	Display **entrepreneurship, leadership and provide training** skills to practice as Audiologist and/or Speech Language Pathologist independently as well as in collaboration with the interdisciplinary health care team

6. COURSE STRUCTURE, COURSE WISE LEARNING OBJECTIVE AND OUTCOMES

SEMESTER I

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution		
		L	T	P	CL	C	IAC	ESE	TOTAL
ASL1101	Communication Sciences Part A Speech-language Pathology Part B Audiology	3	1	-	-	4	25	75	100
ASL1102	Anatomy and Physiology of Speech and Hearing	3	1	-	-	4	25	75	100
ASL1103	Audiology	3	1	-	-	4	25	75	100
ASL1104	Linguistics and Phonetics	3	1	-	-	4	25	75	100
ASL1105	Electronics and Acoustics	3	1	-	-	4	25	75	100
ASL1106	Speech Language Pathology	3	1			4	25	75	100
	Total	**18**	**6**	**-**	**-**	**24**	**150**	**450**	**600**
Note: All ESE will be conducted for 100 marks and normalized to 75									

SEMESTER II

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution		
		L	T	P	CL	C	IAC	ESE	TOTAL
BST3202	Biostatistics & Research Methodology	3	1	-	-	4	25	75	100
CPY2202	Clinical Psychology	3	1	-	-	4	25	75	100
CSK1001	Communication skills	2	-	-	-	2	100	-	100
EIC1001	Environmental Sciences & Indian constitution	2	-	-	-	2	100	-	100
ASL1201	Neurology	3	1	-	-	4	25	75	100
ASL1202	Otolaryngology	3	1	-	-	4	25	75	100
ASL1231	Clinical (Speech-language Pathology)	-	-	-	9	3	25	75	100
ASL1232	Clinical (Audiology)	-	-	-	9	3	25	75	100
	Total	**16**	**4**	**-**	**18**	**26**	**350**	**450**	**800**
Note: All ESE will be conducted for 100 marks and normalized to 75									

SEMESTER III

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution			
		L	T	P	CL	C	Prac	IAC	ESE	TOTAL
ASL2121	Voice and its Disorders	3	-	1	-	4	25	25	50	100
ASL2122	Speech Sound Disorders	3	-	1	-	4	25	25	50	100
ASL2123	Diagnostic Audiology: Behavioral Tests	3	-	1	-	4	25	25	50	100
ASL2124	Amplification Devices	3	-	1	-	4	25	25	50	100
ASL2131	Clinical in Speech language pathology	-	-	-	9	3	-	100	-	100
ASL2132	Clinical in Audiology	-	-	-	12	4	-	100	-	100
*** ****	Open Elective - I	-	-	-	-	3	-	S/NS		
	Total	**12**	**-**	**4**	**21**	**26**	**100**	**300**	**200**	**600**
Note: All ESE will be conducted for 100 marks and normalized to 50										

SEMESTER IV

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution			
		L	T	P	CL	C	Prac	IAC	ESE	Total
ASL2221	Motor Speech Disorders in Children	3	-	1	-	4	25	25	50	100
ASL2222	Language Disorders in Children	3	-	1	-	4	25	25	50	100
ASL2223	Diagnostic Audiology : Physiological Tests	3	-	1	-	4	25	25	50	100
ASL2224	Implantable Hearing Devices	3	-	1	-	4	25	25	50	100
ASL2231	Clinical in Speech language Pathology	-	-	-	12	4	-	25	75	100
ASL2232	Clinical in Audiology	-	-	-	9	3	-	25	75	100
	Total	**12**	**-**	**4**	**21**	**23**	**100**	**150**	**350**	**600**
Note: All ESE will be conducted for 100 marks and normalized to 50 / 75 as reflected above										

SEMESTER V

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution			
		L	T	P	CL	C	Prac	IAC	ESE	TOTAL
ASL3121	Structural Anomalies and Speech Disorders	3	-	1	-	4	25	25	50	100
ASL3122	Fluency and its Disorders	3	-	1	-	4	25	25	50	100
ASL3123	Pediatric Audiology	3	-	1	-	4	25	25	50	100
ASL3124	Aural rehabilitation in children	3	-	1	-	4	25	25	50	100
ASL3131	Clinical in Speech Language pathology	-	-	-	9	3	-	100	-	100
ASL3132	Clinical in Audiology	-	-	-	12	4	-	100	-	100
*** ****	Open Elective II	-	-	-	-	3	-	S/NS		
Total		**12**	**-**	**4**	**21**	**26**	**100**	**300**	**200**	**600**
Note: All ESE will be conducted for 100 marks examination and normalized to 50										

SEMESTER VI

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution			
		L	T	P	CL	C	Prac	IAC	ESE	TOTAL
ASL3221	Motor Speech Disorders in Adults	3	-	1	-	4	25	25	50	100
ASL3222	Language Disorders in Adults	3	-	1	-	4	25	25	50	100
ASL3223	Aural Rehabilitation in Adults	3	-	1	-	4	25	25	50	100
ASL3224	Audiology in Practice	3	-	1	-	4	25	25	50	100
ASL3231	Clinical in Speech Language Pathology	-	-	-	12	4	-	25	75	100
ASL3232	Clinical in Audiology	-	-	-	9	3	-	25	75	100
Total		**12**	**-**	**4**	**21**	**23**	**100**	**150**	**350**	**600**
Note: All ESE will be conducted for 100 marks and normalized to 50 / 75 as reflected above										

Open Electives

Open elective is credited, choice-based and is graded as satisfactory / not satisfactory (S/NS). Students make a choice from pool of electives offered by MAHE institution / Online courses as approved by the department

SEMESTER VII - INTERNSHIP

Internship Duration (5 months / 6 days a week / 7 hours per day)

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)					Marks Distribution			
		L	T	P	CL	CR	Prac	IAC	ESE	TOTAL
ASL4131	Internship -SLP	-	-	-	-	9	-	-	100	100
ASL4132	Internship - Audiology	-	-	-	-	9	-	-	100	100
	Total	-	-	-	-	18	-	-	200	200

Note: Clinical examinations ASL4131 and ASL4132 shall be conducted by one internal and one external examiner, only at the end of internship (8th semester).

SEMESTER VIII - INTERNSHIP

Internship Duration (5 months / 6 days a week/ 7 hours per day)

Course Code	Course title	Credit distribution (L, T, P, CL are hours/week)				
		L	T	P	CL	CR
ASL4231	Internship –SLP	-	-	-	-	9
ASL4232	Internship - Audiology	-	-	-	-	9
	Total	**-**	**-**	**-**	**-**	**18**

Course code	Credit Distribution (L, T & P are hrs per week)					Marks Distribution			Total
	L	T	P	CL	C	Prac	IAC	ESE	
Semester I	18	6	-	-	24	-	150	450	600
Semester II	16	4	-	18	26	-	350	450	800
Semester III	12	-	4	21	23	100	300	200	600
Semester IV	12	-	4	21	23	100	150	350	600
Semester V	12	-	4	21	23	100	300	200	600
Semester VI	12	-	4	21	23	100	150	350	600
Semester VII	-	-	-	-	18	-	-	200	200
Semester VIII	-	-	-	-	18	-	-	-	-
	82	**10**	**16**	**102**	**178**	**400**	**1400**	**2200**	**4000**

SEMESTER - I

COURSE CODE	:	COURSE TITLE
ASL1101	:	Communication Sciences Part A Speech Language Pathology Part B Audiology
ASL1102	:	Anatomy and Physiology of Speech and Hearing
ASL1103	:	Audiology
ASL1104	:	Linguistics and Phonetics
ASL1105	:	Electronics and Acoustics
ASL1106	:	Speech Language Pathology

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Communication Science: Part A- Speech Language Pathology; Part B - Audiology**
Course Code	**ASL1101**
Academic Year	First year
Semester	I
Number of Credits	4
Course Prerequisite	Student should have basic knowledge in Biology and Physics
Course Synopsis	1. In this course student will be introduced to the field of communication science and basic knowledge about the speech language, communication and hearing 2. Students will be introduced to the acoustic properties of speech and hearing 3. Students will be introduced to the history and scope of practice in speech and hearing 4. It provides fundamental knowledge about hearing sensitivity

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Describe the speech, language and communication, its development and factors influencing the development (C2)
CO2	Understand and describe the basic subsystems of speech production (C2)
CO3	Explain the acoustic theory of speech production (C2)
CO4	Explain the concept of decibel (C2)
CO5	Describe the basic concepts of hearing (C2)
CO6	Summarize the history and development and scope of practice for speech and hearing profession (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x				x			
CO4	x							
CO5	x				x			
CO6	x			x				

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Speech, Language and Communication	a) Define speech, language, communication (C1) and explain their components (C2) b) Explain the similarity and difference between communication, speech and language (C2) c) Explain speech as an overlaid function (C2)	12

Content	Competencies	Number of Hours
	d) Describe the relationship between speech, language, hearing and communication using Speech chain model and its application in understanding communication breakdown (C2) e) Describe normal development of speech & language (C2) f) Describe the pre-requisites and factors affecting speech-language development (C2) g) Explain the cultural influence on language and communication (C2)	
Unit 2		
Bases of speech and language	a) Describe the sub-systems of speech production (C2) b) Describe the Speech mechanism as a sound generator (C2) c) Define fundamental frequency, intensity, timbre, periodic and aperiodic sounds (C1) and explain the characteristics of periodic and aperiodic speech sounds (C2) c) Explain the acoustic characteristics of vowels with the help of acoustic theory of speech production (C2) d) Explain the Social, cognitive, neurological, and genetic bases of speech and language (C2)	12
Unit 3		
Sound intensity and concept of decibel	a) Define acoustic energy and power, absolute and relative units – importance of reference (C1) b) Define sound intensity, frequency and their range (C1) c) Explain absolute and relative measurements (C2) d) Define Bel and decibels (C1) e) Explain sound pressure and decibel sound pressure levels, relationship between intensity and pressure (C2) f) Explain characteristics and application of decibels (C2)	12
Unit 4		
Hearing range – intensity and frequency	a) Explain Up-down and staircase procedure of estimating minimum audible levels (C2) b) Explain Minimum audible pressure and field, missing six dB and related issues (C2) c) Explain Reference equivalent threshold sound pressure levels and hearing levels (C2) d) Explain Sensation levels, threshold of pain, most comfortable levels (C2)	12
Unit 5		
Introduction to Audiology and Speech-language Pathology Part A: Speech and Language	a) Describe the history of speech language pathology (C2) b) Describe the development of speech language pathology : Indian and Global context (C2) c) Explain the scope of practice in speech language pathology (C2)	12

Content	Competencies	Number of Hours
	d) Describe the interdisciplinary nature of speech language pathology (C2)	
Part B: Audiology	a) Explain Audiology – historical aspects, development of instrumentation in audiology (C2) b) Explain Development of audiology: Indian and global context (C2) c) Explain Branches of Audiology (C2) d) Explain Scope of Audiology (C2)	

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	5	-
Self-directed learning (SDL)	10	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Unit Test	Two Sessional Exam (Theory)
Assignments	End Semester Exam (Theory)

Mapping of Assessment with COs:						
Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional Exam 1	x	x		x		
Sessional Exam 2			x		x	
Assignments						x
End Semester Exam	x	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	1. M N Hegde. Introduction to communication disorders, 4th edn (2010) 2. Raphael L, Borden G, Harris K. Speech Science Primer: Physiology, Acoustics, and Perception of Speech, 6th edn (2011) 3. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology (12 edition). Boston: Pearson. 4. Gelfand, S. A. (2009). Hearing: An Introduction to Psychological and Physiological Acoustics (5 edition). London: CRC
Additional reference	1. VanRiper & Erickson R. Speech correction: An introduction to speech pathology and audiology, 9th edition 1996 2. Michael P Robb. INTRO: a guide to communication sciences and disorders, 2nd edn, 2014 **3.** Speaks, C. E. (1999). Introduction To Sound: Acoustics for the Hearing and Speech Sciences (3 edition). San Diego: Cengage Learning.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Anatomy and physiology of Speech and Hearing**
Course Code	**ASL1102**
Academic Year	First year
Semester	I
Number of Credits	4
Course Prerequisite	Students should have basic knowledge of biology and physics
Course Synopsis	Brief understanding of the embryological development of various speech and hearing systems. Students will be made to understand and explain the basic anatomy and physiology of systems associated with speech and hearing with more emphasis on speech production and hearing mechanism.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Demonstrate understanding of the basic anatomy and physiology related to speech and hearing systems (C2)
CO2	Demonstrate understanding and explain the basic anatomy and physiology of systems associated with speech and hearing as well as swallowing mechanism (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Introduction	• Define general anatomical terms (C1) • List anatomical positions and planes of reference (C1) • Define Cells, Tissues, muscles (C1) • Describe and label muscle connection and joints, tissues-vascular and neural (C2)	7
Unit 2:		
Embryology of ear and speech systems	• Define basic terminologies related to embryology (C1) • Describe the development of external ear, middle ear and Inner ear (C2) • Describe development of central auditory system (C2) • Describe development of respiratory structures and larynx (C2) • Describe the development of face & palate, tongue	8

Content	Competencies	Number of Hours
	and teeth (C2) • List the embryonic anomalies affecting speech, language & hearing (C1)	
Unit 3:		
Anatomy and physiology of speech production systems and swallowing	• Explain the mechanisms of breathing (C2) • Distinguish speech breathing versus quiet breathing (C2) • Explain phonatory system: Supportive framework and anatomy of larynx (C2) • Illustrate mechanisms of phonation (C2) • Describe resonatory system: Anatomy; contribution of resonatory mechanisms to speech production (C2) • Describe articulatory system: Supportive framework; contribution in speech production (C2) • Describe Anatomy of oesophagus; Explain brief mechanism of swallowing. (C2)	16
Unit 4:		
Anatomy of the external and middle ear	• Label and describe anatomy of the external ear (C1) • Describe physiology of the external ear; Define azimuth; localization (C2) • Define Head shadow effect; inter-aural intensity (IID) and time differences (ITD) (C1) • Draw and Label anatomy of temporal bone (C1) • Draw and Label anatomy of tympanic membrane and associate structures (C1) • Describe anatomy of middle ear and ossicles (C2) • Memorize anatomy and physiology of Eustachian tube (C1) • List and record anatomy and physiology of middle ear muscles (C1) • Illustrate middle ear transformer action (C2)	13
Unit 5:		
Anatomy and physiology of inner ear and central auditory system	• Describe anatomy of bony and membranous labyrinth (C2) • Explain macro anatomy of cochlea; organ of Corti with figures (C2) • Explain micro anatomy of cochlea; hair cells and their components with figures (C2) • Find innervations and blood supply to cochlea (C1) • Recite theories of hearing (C1) • Describe physiology of cochlea; Electrical potentials of the cochlea-CM;AP;SP (C2) • Describe physiology of hearing through bone conduction; Recite theories of bone conduction (C2) • Explain physiology of balancing mechanisms (C2) • Describe anatomy of central auditory pathway with figures (C2) • Describe central auditory mechanism (C2)	14

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	153
Small group discussion (SGD)	4	-
Self-directed learning (SDL)	5	-
Revision	2	-
Assessment	1	-
Total	**60**	**153**
Assessment Methods:		
Formative:	**Summative:**	
Assignments	Sessional exam I & II	
Mapping of Assessment with COs:		
Nature of Assessment	**CO1**	**CO2**
Sessional Examination 1	x	
Sessional Examination 2		x
Assignments/Presentations	x	x
End Semester Exam	x	x
Feedback Process:	Mid-Semester Feedback	
	End-Semester Feedback	
Main Reference:	• Seikel, J. A., King, D. W., Drumright, D. G., Moore, S., & Duncan, S. (2009). Anatomy & Physiology for Speech, Language, and Hearing (4th edition). Clifton Park, NY: Thomson Delmar Learning, Division of Thomson Learning. • Zemlin, W. R. (2010). Speech and Hearing Science: Anatomy and Physiology: International Edition (4 edition.). Boston: Pearson. • Newby and Popelka, Audiology.	
Additional References	• Chaurasia, B.D (2004). Human Anatomy, vol 3. Head Neck and Brain 4th Eds, CBS Publishers and Distributors, New Delhi. • Martin, Introduction to Audiology • Kelley, M., Wu, D., & Fay, R. R. (Eds.). (2005). Development of the Inner Ear (2005 edition.). New York: Springer.	

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Audiology**
Course Code	**ASL1103**
Academic Year	First year
Semester	I
Number of Credits	4
Course Prerequisite	Student should have basic knowledge in Biology and Physics
Course Synopsis	The module will provide introduction on differential hearing sensitivity, basic audiological tests involved and procedure for calibration

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Understand and carryout experiments to measure differential sensitivity loudness and pitch (C4, P6)
CO2	Take case history, administer the tuning fork tests and interpret the results (C6, P6)
CO3	Administer pure tone audiometry including masking on clinical population and appreciate the theoretical back ground of it (C5, P5)
CO4	Carryout different tests involved in speech audiometry appreciate the theoretical back ground (C6, P6)
CO5	Carryout subjective calibration and theoretical knowledge on objective calibration (C6, P6)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3	x	x						
CO4	x	x						
CO5	x	x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Differential sensitivity	Define the concept of differential sensitivity, just noticeable difference (C1) Explain Weber's fraction (C2, P5) Explain Intensity discrimination, Frequency discrimination, Duration discrimination and temporal resolution (C2, P4) Applications of JND's (C3, P6) Define Magnitude estimation and production (C1) Identify and perform equal loudness contours and its application (C3, P6)	12

Content	Competencies	Number of Hours
	Analyse Loudness scales - sone, phone, Steven's power law (C4, P6) Analyse Pitch- scales of pitch (C4, P6)	
Unit 2:		
Pure tone audiometry	Discover the need for case history (C4) Discover the basics of history taking (C4) Build essential factors to be included in case history for adults (C6, P5) Build Essential factors to be included in case history for children (C6, P5) Interpretation of case history (C5, P5) Explain Audiological evaluation – rationale and purpose (C2, P5) Compose and perform Principles, procedure, interpretation, advantages and disadvantages of Rinne and Schwabach tuning fork test (C6, P5) Compose and perform Principles, procedure, interpretation, advantages and disadvantages of Weber and Bing tuning fork test (C6, P5) Compose and perform Audiometric version of Weber and Bing test (C6, P6)	12
Unit 3		
Speech audiometry	Classification of audiometers, characteristics and specifications of transducers used (earphones, bone vibrators, loud speakers) (C1) Analyse and interpret Audiogram- concept and symbols used (C4, P5) Interpretation of the clinical method of threshold estimation (C5, P5) Explain the factors affecting air conduction threshold (C2, P2) Explain the bone conduction thresholds- measurements, factors effecting (C2, P2) Explain the parts of an Audiometer (C2) Demonstrate the concept of Permissible noise levels in the audiometric room (C2)	12
Unit 4		
Speech audiometry	Define importance and purpose of Speech audiometry (C1) List the different types of stimuli used in speech audiometry (C1) Define the concept of phonetically and phonemically balanced (C1) Analyse and perform speech detection thresholds – procedure and application (C4, P5) Analyse and perform Speech reception thresholds – procedures and application (C4, P5) Analyse and perform Word recognition scores– procedure and applications (C4, P5) Formulate and demonstrate PIPB function – procedure	12

Content	Competencies	Number of Hours
	and applications (C6, P6) Explain the factors affecting speech audiometry (C2) Analyse the importance of BC speech audiometry – procedure and its application (C4) List the test materials available in various languages (C1)	
Unit 5		
Clinical masking and instrumental calibration	Define the different terminologies used in masking (C1) Analyse on different types of stimulus employed in clinical masking (C4) Analyse the importance of Interaural attenuation and factors affecting interaural attenuation (C4) Formulate and perform different procedures for masking(C6, P6) Formulate and perform masking of speech (C6, P5) Explain importance of calibration and purpose (C2) Formulate and perform daily listening checks and subjective calibration (C6, P5) Experience with objective calibration of air conduction transducers (C3, P3) Experience with objective calibration of bone conduction transducers (C3, P3) Experience with objective frequency calibration (C3, P3)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	2	-
Self-directed learning (SDL)	4	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	8	-
Revision	-	-
Assessment	1	-
Total	**60**	**135**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Sessional Exam I & II
Quiz / Viva	End Semester Exam
Assignments/Presentations	
Clinical assessment (OSCE, OSPE, WBPA)	
Practical / Record Book	

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x			
Sessional Examination 2			x	x	x
Quiz / Viva		x			
Assignments/Presentations		x			
End Semester Exam	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference:	1. Gelfand, S. A. (2009). Hearing: An Introduction to Psychological and Physiological Acoustics (5 edition.). London: CRC Press. 2. Katz, J. (2014). Handbook of Clinical Audiology (7th International edition edition.). 3. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology. Boston: Pearson.				
Additional References	1. Durrant, J. D., &Feth, L. L. (2012). Hearing Sciences: A Foundational Approach (1 edition.). Boston: Pearson. 2. Emanuel, D. C., &Letowski, T. (2008). Hearing Science (1 edition.). Philadelphia: Lippincott Williams and Wilkins. 3. Kaplan, H., Gladstone, V. S., & Lloyd, L. L. (1993). Audiometric Interpretation: A Manual of Basic Audiometry (2 edition.). Boston: Pearson. 4. Silman, S., & Silverman, C. A. (1997). Auditory Diagnosis: Principles and Applications (Reissue edition.). San Diego: Singular Publishing Group				

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Linguistics and Phonetics**
Course Code	**ASL1104**
Academic Year	First year
Semester	I
Number of Credits	4
Course Prerequisite	To have basic understanding of language structures
Course Synopsis	This module will provide information about introduction to Linguistics and its role / importance in ASLP, Function, Characteristics, Structure, Levels, and subsystems of Language, Multilingualism and its impact in disorders of language.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Understand branches and theoretical framework of Linguistics. Also, understand & describe characteristics & functions of Language. (C3)
CO2	Understand, describe, and apply theoretical concepts pertaining to Phonetics. (C4)
CO3	Understanding theoretical concepts under Phonology, Morphology, Syntax, Semantics & Pragmatics of Language. (C3)
CO4	Understand Language acquisition & the factors affecting it. (C3)
CO5	Understand multilingualism & related issues, especially in the field of clinical practice (C2)
CO6	Apply all of the above to the study of speech and language disorders (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3	x							
CO4	x							
CO5	x							
CO6	x	x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Introduction to Language and Linguistics	Name & define the branches of Linguistics (C1) Illustrate the organization of Language (C2) Outline the characteristics of Language (C2) Identify the functions of Language within the communication abilities of individuals (C3)	12
Unit 2:		
Phonetics &	List & define the branches of Phonetics (C1)	12

Content	Competencies	Number of Hours
Phonology	Describe & analyse vowels and consonants (C4) Identify the Syllable structure and Supra segmental features in speech (C3) Make use of methods of transcription of sounds in preparation for future analysis(C3) Define & understand the phenomenon of Coarticulation (C2) Infer from knowledge of Phonetics to understand disordered speech (C2) Understand & illustrate the concepts of Phoneme and Allophones (C2) Define & List various methods of Phonological Analysis (C1)	
Unit 3:		
Morphology, Syntax, Semantics and applied linguistics	Utlilize the notions of Morpheme & their types, allomorphs & roots, processes of word formation to understand normal & disordered language (C3) Define & name various Principles and practices of morphemic analysis (C1) Apply the knowledge of types of syntactic construction to language samples (C3) Outline different methods of Syntactic analysis (C2) Transformational Describe the notions of Generative Grammar, IC analysis and PSG (C2) Define and describe the concepts of Semantics, Feature theory and lexical relations (C2) Define and describe the concepts of Pragmatics and discourse (C2)	12
Unit 4:		
Language acquisition	List & describe Theoretical issues in the study of language acquisition (C2) Organize the Stages of acquisition into various subsystems of language (C3) Explain & summarise various theories and models of language acquisition (C2) Define the relationship between Language and cognition (C1) Describe the notion of Communicative competence (C2) Match the notions of language impairment to the theoretical principles involved in language acquisition (C1)	12
Unit 5:		
Multilingualism	List known Language Families of India and the world (C1) Classify & illustrate Second language acquisition & factors influencing it (C2) Define Multilingualism in Indian society (C1) Define Metaphonology (C1) Classify and explain types & history of Writing systems (C2)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT):						
Learning Strategies	**Contact Hours**		**Student Learning Time (SLT)**			
Lecture	45		135			
Seminar	-		-			
Small group discussion (SGD)	-		-			
Self-directed learning (SDL)	5		-			
Problem Based Learning (PBL)	5		-			
Case Based Learning (CBL)	-		-			
Clinic	-		-			
Practical	-		-			
Revision	2		-			
Assessment	3		-			
Total	**60**		**135**			
Assessment Methods:						
Formative:	**Summative:**					
Unit Test	Sessional Exam I & II					
Quiz	End Semester Exam					
Viva						
Assignments/ Analysis exercise						
Practical / Record Book						
Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional Examination 1	x	x	x			
Sessional Examination 2				x	x	x
Assignments / Presentations		x	x			x
End Semester Exam	x	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main Reference:	1. Syal, P., & Jindal, D. V. (2007). *An Introduction to Linguistics: Language, Grammar and Semantics* (2nd ed.). New Delhi: PHI Learning Pvt Ltd. 2. Ladefoged, P., & Johnson, K. (2011). *A Course in Phonetics* (Sixth ed.). Cengage Learning					
Additional References	3. Yule, G. (2010). *The Study of Language* (4th ed.). Cambridge University Press. 4. Lyons, J. (1981). *Language and Linguistics: An Introduction.* Cambridge University Press. 5. Clark and Yallop (1999). *An introduction to phonetics and phonology*. Oxford: Blackwell Publishes Inc.					

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Electronics And Acoustics**
Course Code	**ASL1105**
Academic Year	First year
Semester	I
Number of Credits	4
Course Prerequisite	Students should have basic knowledge in physics
Course Synopsis	The module will provide information regarding concept and types of power supply for biomedical instruments, basic aspects of digital signal processing, theoretical basis of acoustics required for audiologists, functioning of computers and computing systems.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Define electrical components and power supply (C1)
CO2	Describe basic knowledge about acoustics (C2)
CO3	Define basic knowledge regarding acoustical treatment for audiometric rooms, transducers and basics of computers (C1)
CO4	Describe digital signal processing (C2)
CO5	Explain basic knowledge regarding instrumentation in the field of speech and hearing (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x							
CO5	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Electronic components and power supply	a) Define Resistors, capacitors, inductors (C1) b) Define transformers and potentiometers (C1) c) Define Semiconductor diodes and transistors (C1) d) Describe Light emitting devices, seven segment displays, Liquid crystal displays (C2) e) List the principles of operations and working of Field Effect Transistors, Uni-junction transistors and thyristors (C1) f) Recall Introduction to linear and digital integrated circuits (C1) g) Label block diagram of a DC power supply (C1) h) Recall Linear regulated power supplies, line regulation	12

Content	Competencies	Number of Hours
	and load regulation, specifications of a DC power supply unit, Switched Mode Power Supply (C1) i) Recall AC power supply, stabilizers, Uninterrupted Power Supply, and inverters (C1) j) Tell basic electronic concepts such as Polarity, Grounding (C1)	
Unit 2		
Introduction to acoustics	a) Define Vibrations and list their characteristics (C1) b) Describe Sound - generation and propagation (C2) c) List the characteristics of sound (C1) d) Recall Amplitude, frequency and phase of pure tones (C1) e) Recall Amplitude, frequency and phase of complex tones (FFT and spectrum, relationship between time waveform, FFT and impulse response) (C1) f) Define Reflection and absorption, acoustic impedance, reverberation (C1) g) Define Impedance and admittance (C1) h) Describe electro-mechano-acoustic transformers (C2)	12
Unit 3		
Acoustical treatment, transducers and basics of computers	a) Recall Introduction to audiometric rooms (C1) b) Describe Absorption coefficient, Sabine's formula (C2) c) Choose Materials for construction of audiometric rooms (C1) d) Describe Lighting, grounding and other miscellaneous issues related to audiometric rooms (C2) e) Evaluation of efficiency of sound proofing in the audiometric rooms (C1) f) Define Amplifiers (C1) g) Define Microphones, loudspeakers –list the types and function (C1) h) Recall fundamentals of digital electronics, binary number system, Hex code, bit, byte, logic gates, counters, flip-flops etc. (C1) i) Recall Introduction to computers (C1) j) Describe Operating systems, hard ware, software, memory devices and other peripherals, care and preventive maintenance of computers (C2)	12
Unit 4		
Digital signal processing	a) Define Digital signal processing –introduction and need (C1) b) Describe analog to digital converters, sampling and quantization (C2) c) Recall fundamentals of digital filtering (C1) d) Define Infinite impulse response and finite impulse response filters (C1) e) List time domain methods of speech processing (C1) f) List frequency domain methods of speech processing (C1)	12

Content	Competencies	Number of Hours
	g) Describe Linear predictive analysis of speech signals (C2) h) Define digital coding of speech signals (C1) i) Recall automatic speech recognition (C1) j) Define Speech synthesis (C1)	
Unit 5		
Instrumentation in speech and hearing	a) Recall introduction to electronic instrumentation in speech and hearing (C1) b) Define Electrodes, filters and preamplifiers (C1) c) List principle of operations, block diagram, calibration, maintenance and troubleshooting of audiometers, immittance meters, oto-acoustic emissions, hearing aids, evoked potential system, speech and voice analyses systems, artificial larynx, electroglottograph (C1)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	13	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	2	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Assignments - NIl	Sessional Exam I & II
	End Semester Exam

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x	x		
Sessional Examination 2			x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	• Haughton, P., & Haughton, P. M. (2002). Acoustics for Audiologists (1st edition.). San Diego, Calif: Emerald Group Publishing Limited. • Moser, P. (2015). Electronics and Instrumentation for

	Audiologists. Psychology Press. • Moser, P. J. (2013). Electronics and Instrumentation for Audiologists. Psychology Press. • Rout, N and Rajendran, S. (2014). Hearing aid trouble shooting and Maintenance, Published by National Institute for Empowerment of Persons with Multiple Disabilities, Chennai. Freely downloadable from http://niepmd.tn.nic.in/publication.php. ISBN 97881-928032-1-0.
Additional reference	• Speaks, C. E. (1999). Introduction To Sound: Acoustics for the Hearing and Speech Sciences (3 edition.). San Diego: Cengage Learning. • Villchur, E. (1999). Acoustics for Audiologists (1 edition.). San Diego, Calif: Delmar Cengage Learning.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Speech-Language Pathology**
Course Code	**ASL1106**
Academic Year	First year
Semester	I
Number of Credits	4
Course Prerequisite	Student should have basic understanding of human anatomy and physiology
Course Synopsis	1. Different speech and language disorders and their causes 2. Diagnosis and intervention procedures for speech and language disorders 3. Various laws, socio-cultural and ethical issues in speech-language pathology

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To explain different speech and language disorders (C2)
CO2	To demonstrate the basic concepts and tools required for diagnosing speech and language disorders (C2)
CO3	To identify the basic principles and intervention procedures for speech and language disorders (C3)
CO4	To apply the basics of assessment procedures for speech and language disorders (C3)
CO5	To demonstrate the clinical requirement to practice (C2)
CO6	To outline the different laws, socio-cultural and ethical issues (C2)
CO7	To illustrate the identification and prevention of speech and language disorders (C2)
CO8	To identify the basic principles of providing counselling and guidance to clients and caregivers (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x		x					
CO2	x							
CO3	x		x					
CO4	x		x					
CO5	x		x					
CO6	x			x				
CO7	x		x					
CO8	x				x			

Course Content and Outcomes:

Content	Competencies	Number of Hours
Unit 1		
Basic concepts and methods of diagnostics	a) Define Speech Language Disorders (C1) b) Explain delay, deviancy and disorders; impairment, disability and handicap (C2) c) To demonstrate the incidence and prevalence of speech and language disorders (C2) d) To identify the causes of speech and language disorders (C3) e) To apply the basic principles in assessment, evaluation and appraisal (C3) f) To choose the tools for diagnosis-case history, interview, self-reports, questionnaire & observations (C3) g) To apply the diagnostic models – SLPM, Wepman, Bloom and Lahey (C3) h) To select from the types of diagnoses – Clinical diagnosis, direct diagnosis, differential diagnosis, diagnosis by treatment, diagnosis by exclusion, team diagnosis, instrumental diagnosis, provocative diagnosis, tentative diagnosis advantage/disadvantages (C3) i) To identify the characteristics of a diagnostic clinician (C3) j) To outline the organization and basic requirements for clinical set up and team approach (C2) k) To outline the DSM, ICD classification and ICF (C2)	12
Unit 2		
Basic concepts and methods of therapeutics	a) To identify the basic concept and terminologies in speech therapeutics (C3) b) To apply the general principles of speech and language therapy (C3) c) To choose among the Speech therapy set-up (C3) d) To select Individual versus group therapy (C3) e) To apply the procedures and types of speech-language therapy (C3) f) To identify the approaches to speech and language therapy – formal, informal and eclectic approaches (C3) g) To choose planning for speech and language therapy – goals, steps, procedures and activities (C3) h) To identify the importance of reinforcement principles and strategies in speech and language therapy, types and schedules of rewards and punishment (C3) i) To select Individual and group therapy (C3) j) To select AAC and other nonverbal methods of therapy (C3)	12
Unit 3		
Overview of basic	a) To identify causes of speech disorders (C3) b) To identify the overview of assessment procedures for	12

Content	Competencies	Number of Hours
assessment and management of speech disorders	voice disorders; articulation and phonological disorders; and fluency disorders (C3) c) To identify the overview of management procedures for voice disorders; articulation and phonological disorders; and fluency disorders (C3) d) To explain early identification and prevention of speech disorders (C2) e) To demonstrate basic concepts in assessment and management of swallowing disorders (C2)	
Unit 4		
Overview of basic assessment and management of language disorders	a) To illustrate the types, characteristics and classification of language disorders (C2) b) To identify the causes of language disorders (C3) c) To identify the overview of assessment procedures for child language disorders; adult language disorders; and neurogenic language disorders (C3) d) To identify the overview of management procedures for child language disorders; adult language disorders; and neurogenic language disorders (C3) e) To explain early identification and prevention of language disorders (C2) f) To outline issues related to bi/multilingualism (C2)	12
Unit 5		
Other issues in practice as a speech – language pathologist	a) To apply the professional code of conduct – social, cultural and other ethical issues (C3) b) To demonstrate the scope of practice – different set ups and prerequisites (C2) c) To identify the documentation of diagnostic, therapeutic and referral reports (C3) d) To apply counselling, guidance, facilitation of parent participation and transfer of skills (C3) e) To examine the evaluation of therapy outcome and follow up (C4) f) To choose evidence based practice (C3) g) To demonstrate community based rehabilitation (C2) h) To understand the role of itinerant speech therapist, Anganwadis, resource teachers etc. (C2) i) To explain PWD act, National Trust, Consumer protection Act, noise pollution Act and other public laws, RCI, ISHA and other organizations controlling the field (C2) j) To identify facilities and concessions available for speech and hearing disabled (C3)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-

Self-directed learning (SDL)	10	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	5	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:

Formative	**Summative**
Unit Test	Sessional Exam I & II
Assignments	End Semester Exam

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**	**CO7**	**CO8**
Sessional Examination 1	x	x	x					
Sessional Examination 2				x	x	x	x	
Assignments	x	x						x
End Semester Exam	x	x	x	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	1. Shipley, K. G., & McAfee, J. G. (2016). Assessment in speech-language pathology: A resource manual (5th ed.). Australia; Clifton Park, NY: Delmar Learning. 2. Paul, R., & Norbury, C. F. (2012). Language Disorders from Infancy through Adolescence: Listening, Speaking, Reading, Writing and Communicating (4th ed.). St. Louis, Missouri: Elsevier Inc.
Additional reference	1. Reed, V. A. (2004). An introduction to children with language disorders (3rd Ed.). New York: Allyn & Bacon

SEMESTER - II

COURSE CODE	:	COURSE TITLE
BST3202	:	Biostatistics and Research Methodology
CPY2202	:	Clinical Psychology
CSK1001	:	Communication skills
EIC1001	:	Environmental Science & Indian Constitution
ASL1201	:	Neurology
ASL1202	:	Otolaryngology
ASL1231	:	Clinical (Speech-language Pathology)
ASL1232	:	Clinical (Audiology)

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Biostatistics and Research Methodology**
Course Code	**BST3202**
Academic Year	First Year
Semester	II
Number of Credits	4
Course Prerequisite	Nil
Course Synopsis	1. To provide necessary foundation on • Introductory level biostatistics • Demography, vital statistics and epidemiology • Survey sampling methods • Fertility, morbidity, and mortality indices 2. To introduce the steps involved in research process

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Explain characteristics of statistical data, types of variables, scales of measurement, presentation of data, normal distribution. (C2)
CO2	Apply measures of location and variation for statistical data (C3)
CO3	Outline the sources of demographic data and vital statistics, merits and demerits of probability and non-probability sampling techniques. (C2)
CO4	Explain the indices of fertility, morbidity and mortality, Epidemiology, observational study designs (C2)
CO5	Explain the concept of correlation and regression. (C2)
CO6	Summarize the steps involved in a research process (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4		x						
CO5	x							
CO6	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Introduction to Biostatistics	• Define biostatistics (C1) • Describe the characteristics of statistical data (C2) • Explain the role of statistics in health sciences (C2)	2
Variables	• Distinguish between qualitative & quantitative with appropriate examples (C2) • Distinguish between continuous & discrete variables with appropriate examples (C2)	4

Content	Competencies	Number of Hours
	• Distinguish between nominal & ordinal variables with appropriate examples (C2)	
Scales of Measurement	• Describe nominal scale of measurement of variables with appropriate examples (C2) • Describe ordinal scale of measurement of variables with appropriate examples (C2) • Describe interval scale of measurement of variables with appropriate examples (C2) • Describe ratio scale of measurement of variables with appropriate examples (C2)	4
Unit 2:		
Tabular presentation of data	• Describe the three types of class intervals - inclusive, exclusive and open ended (C2) • Explain the concepts of relative and cumulative frequencies (C2) • Construct the frequency table (C3)	2
Graphical presentation of data	• Explain the concepts of Histogram, Frequency Polygon, Frequency Curve (C2) • Construct Histogram, Frequency Polygon, Frequency Curve for statistical data (C3)	2
Diagrammatic presentation of data	• Explain the concepts of Bar diagram and Pie diagram (C2) • Construct Bar diagram and Pie diagram for statistical data (C3)	2
Unit 3:		
Measures of Location	• Explain the concepts of Mean, Median, Mode (C2) • Explain the concepts of Quartiles and Percentiles (C2)	2
Unit 4:		
Measures of Variation	Describe the concepts of Range, Inter-quartile range, Variance, Standard deviation and Coefficient of variation (C2)	2
Unit 5:		
Sampling	• Explain sampling and non-sampling error (C2) • Define and distinguish probability and non-probability sampling methods (C1) • Explain each sampling technique by stating their merits and demerits (C2)	4
Unit 6:		
Normal Distribution	• Explain the characteristics of normal distribution (C2) • Compute the area under the normal distribution curve (C3)	2
Skewness and Kurtosis	• Explain the concept of skewness and describe three types of skewness (C2) • Explain the concept of kurtosis and describe three	2

Content	Competencies	Number of Hours
	types of kurtosis (C2)	
Unit 7:		
Correlation	• Define correlation (C2) • Explain positive and negative correlation with appropriate examples (C2) • Explain the Pearson's correlation coefficient and outline its properties (C2) • Explain the Spearman's correlation coefficient and outline its properties (C2) • Illustrate using scatter plot the different types of correlation (C3)	2
Regression	• Distinguish between dependent and independent variables. (C2) • Explain the simple linear regression model along with the assumptions involved. (C2) • Identify the slope and intercept coefficient from the model. (C2) • Predict the dependent variable from the model for a given set of independent variables. (C3)	2
Unit 8:		
Demography and Vital statistics	• Define Demography and Vital statistics (C1) • What are the sources of demographic data and vital statistics (C1) • Define and distinguish rate, ratio and proportion (C1)	2
Morbidity, mortality and fertility rates	• Explain prevalence and incidence (C2) • Explain each measure of morbidity, mortality and fertility rates by stating the formula (C2)	4
Unit 9:		
Research	• Explain sampling and non-sampling error (C2) • Define and distinguish probability and non-probability sampling methods (C1) • Explain each sampling technique by stating their merits and demerits (C2)	3
Unit 10:		
Epidemiology	• Define Epidemiology (C1) • Explain the observational study designs (case report, case series, cross-sectional, ecological) (C2)	4

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	15	-
Revision	-	-

Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Sessional Exam I & II
	End Semester Exam

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional Examination I	x	x	x			
Sessional Examination II				x	x	x
End Semester Exam	x	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Lwanga SK, Tye CY, Ayeni O. Teaching health statistics: lesson and seminar outlines. World Health Organization, Marketing and Dissemination, 1211 Geneva 27, Switzerland; 1999. 2. Health research methodology: a guide for training in research methods. World Health Organization; 2001. 3. Bonita R, Beaglehole R, Kjellström T. Basic epidemiology. World Health Organization; 2006. 4. Campbell MJ, Swinscow TD. Statistics at square one. John Wiley & Sons; 2011.
Additional References	1. Degu G, Tessema F. Biostatistics [Internet]. Gondor: University of Gondar; January 2005. Available from: http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/ln_biostat_hss_final.pdf 2. Kebede Y. Epidemiology [Internet]. Gondor: University of Gondar; 2004. Available from: http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/env_occupational_health_students/Epidemiology.pdf 3. Degu G, Yigzaw T. Research Methodology [Internet]. Gondor: University of Gondar; 2006. Available from: http://www.cartercenter.org/resources/pdfs/health/ephti/library/lecture_notes/health_science_students/ln_research_method_final.pdf 4. Morris JN. Uses of epidemiology. Edinburgh, UK: Churchill Livingstone; 1975. 5. Campbell MJ, Machin D, Walters SJ. Medical statistics: a textbook for the health sciences. John Wiley & Sons; 2010. 6. Rao PS, Richard J. An Introduction to Biostatistics: A manual for students in health sciences. Prentice/Hall of India; 1996. 7. Mahajan BK, Khanal AB. Methods in biostatistics: for medical students and research workers. Jaypee Brothers Medical Publishers; 2010.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical Psychology**
Course Code	**CPY2202**
Academic Year	First year
Semester	II
Number of Credits	04
Course Prerequisite	Nil
Course Synopsis	• Orients and familiarizes students towards the basic psychological processes • Enables the students to understand how psychological principles are applied in day to day life. • Introduce the students to the field of clinical psychology • Orients and familiarize them towards various psychological disorders and psychological interventions.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Explain the basic concepts in Psychology. (C2)
CO2	Explain how the processes of perception , learning, memory , thinking and intelligence contributes to the uniqueness of the individual (C2)
CO3	Outline the role of motivation , emotion and personality in shaping human behaviour (C2)
CO4	Develop an understanding of normality and abnormality in clinical psychology (C3)
CO5	Outline the various signs and symptoms of psychiatric disorders (C2)
CO6	Explain the various psychological interventions for various mental health conditions (C2)

Mapping of Course Outcomes (Cos) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x						x	
CO2						x	x	
CO3						x	x	
CO4	x							
CO5	x					x		
CO6	x					x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Introduction to Psychology	1. Define Psychology(C1) 2. Outline the evolution of Psychology as a scientific discipline (C2) 3. Summarise the modern schools of Psychology	3

Content	Competencies	Number of Hours
	4. Enumerate the different branches of Psychology(C1) 5. What is Introspection? List the merits and demerits of introspection (C1) 6. Explain the importance of Experimental method in the field of Psychology(C2) 7. Explain the observation method in Psychology (C2)	
Unit 2:		
Perception	1. Define Perception (C1) 2. Describe the various principles of Perceptual groupings (C2) 3. Illustrate the Gestalt laws of perception (C2) 4. Define Perceptual constancy and explain its types(C2) 5. Explain Monocular and Binocular cues in Perception (C2) 7. Explain types of motion perception (C2)	3
Unit 3:		
Learning	1. Define Learning (C1) 2. Explain Pavlov's Classical Conditioning(C2) 3. Summarize the various processes of Classical Conditioning with examples (C2) 4. Explain the applications of Classical Conditioning(C2) 5. What is Operant Conditioning (C1) 6. Compare the types of reinforcement and Punishment(C2) 7. Explain with the examples the schedules of Reinforcement (C2) 8. Explain the applications of Operant Conditioning(C2) 8. Explain observation learning with its classic experiment (C2) 9. Illustrate the processes in observation learning (C2)	3
Unit 4:		
Memory	1. Define Memory (C1) 2. List the processes that underlie memory (C1) 3. Explain the characteristics of different types of memory(C2) (sensory, STM, LTM) 4. Summarise the different theories of forgetting (C2) (Decay, motivated forgetting, interference, cue dependant displacement) 5. List the various strategies to improve memory (C1)	3
Unit-5:		
Thinking & Problem solving	1. Define thinking (C1) 2. How thoughts are represented (C1) 3. Define concepts(C1) 4. Compare the different types of concept (C2) 5. Enumerate the steps in creative thinking (C1) 6. List the steps involved in problem solving (C1)	2

Content	Competencies	Number of Hours
	7. What are the different strategies used to solve problems (C1) (Trial & error, Heuristics, Algorithm)	
Unit-6:		
Intelligence	1. Define Intelligence (C1) 2. Summarise the various theories of Intelligence (C2) (Two factor, Crystallised and Fluid, Multiple intelligence) 3. List the different types of Intelligence tests (C1) 4. Define Emotional Intelligence (C1) 5. What are the different components of emotional intelligence? (C1)	3
Unit-7:		
Motivation & Conflict	1. Define Motivation (C1) 2. Summarize the biological theories of Motivation (C2) (Drive reduction theory, Optimal arousal theory, Instinct theory) 3. Explain the Psychological theories of Motivation (C2) (Maslow's hierarchy theory) 4. Define Conflict (C1) 5. Explain the types of Conflict with examples (C2) (Approach- Approach conflict, Avoidance-Avoidance conflict, Approach- Avoidance conflict and Double Approach- Avoidance conflict) 6. Summarise the different ways to handle conflict (C2)(Task and defense oriented)	3
Unit-8:		
Emotion	1. Define Emotion (C1) 2. List the characteristics of Emotion (C1) 3. Explain the various theories of Emotion (C2)(James-Lange, Cannon- Bard, Schatcher- Singer)	2
Unit-9:		
Personality	1. Define Personality(C1) 2. Explain the Psychodynamic theory of Personality (C2) 3. Explain the trait approach towards Personality (C2) 4. Summarize Rogers' humanistic approach in understanding Personality (C2) 5. Enumerate the various assessment methods in studying Personality (C1)	4
Unit-10:		
Introduction to Clinical Psychology	1. Define clinical Psychology (C1) 2. Outline the scope of clinical psychology (C2) 3. Explain the methods in clinical psychology (C2) (case history, observation, survey and interview) 4. Explain the concept of normality and abnormality (C2) 5. Identify the differences between various models of	2

Content	Competencies	Number of Hours
	mental disorders (C3) (biological, psychodynamic, learning, cognitive, social cultural)	
Unit-11:		
Psychiatric disorders: an overview	1. Compare mental disorders based on DSM V & ICD 10 classificatory systems. (C2) 2. Compare DSM V & ICD 10 classificatory systems. (C2) 3. Outline various psychotic disorders (C2) (Schizophrenia and delusional disorders) 4. Summarise mood disorders (C2) (Depression, Mania and Bipolar disorders) 5. Summarise various substance use Disorder (C2) (Intoxication, Abuse, harmful use and Dependence) 6. Outline the various psychoactive substances and it corresponding symptoms (C2) 7. Outline the various anxiety disorders (C2) (GAD, SAD, OCD, Phobias and Panic disorder) 8. Identify the difference between fear and anxiety (C3) 9. Outline the various personality disorders based on ICD 10 (C2) 10. Outline the various child hood behavioural disorders (C2) (ADHD, CD, ODD, MR, Autism, SLD)	7
Unit-12:		
An overview of psychological interventions	1. Define counselling (C1) 2. Outline various types of counselling (C2) 3. Explain the theoretical framework of behaviour therapy (C2) 4. Explain the various behaviour therapy techniques (C2) (Shaping, chaining, time-out, token economy, desensitisation and aversive techniques) 5. What is psychodynamic psychotherapy (C1) 6. Outline the various concepts in psychodynamic psychotherapy (C2) (Free association, Dream analysis, transference and counter transference) 7. Outline various principles of supportive therapy (C2) 8. Define crisis (C1) 9. List the steps in crisis intervention (C1)	4

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	3	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-

Practical	-	-
Revision	3	-
Assignment	9	-
Total	**60**	**135**

Assessment Methods:	
Formative:	**Summative:**
Nil	Sessional Exam I & II
Nil	End semester exam

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional examination I	x	x	x	x	x	x
Sessional examination II	x	x				
End semester examination	x	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Baron, R. A., Byrne, D., & Mankowitz, B. H. (1977). Psychology: Understanding behaviour. Philadelphia: W.B. Saunders Co. 2. Feldman, R. S. (1993). Understanding psychology. New York: McGraw-Hill. 3. Korchin, S.J. (2004) Modern Clinical Psychology. New Delhi: CBS Publishers & Distributors 4. Ahuja, N. (2011) A Short Textbook Of Psychiatry. New Delhi: Jaypee Brothers Medical Publishers
Additional References	1. Myers, D. G. (2005). *Exploring psychology*. New York, NY: Worth Publishers.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Communication Skills**
Course Code	**CSK1001**
Academic Year	Second Year
Semester	III
Number of Credits	02
Course Prerequisite	Nil
Course Synopsis	1. Equips the students with primary oral and written communication skills in English. 2. Orients students to focus on diverse interactive situations and enhances the interpersonal skills required in a professional environment.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Identify the components of communication skills and apply them in a professional setting (C3)
CO2	Outline effective oral communication skills in diverse context (C2)
CO3	Summarize different ways to write creatively, coherently and effectively on a given topic (C2)
CO4	Develop active listening skills involving feedback in diverse interactive situation. (C3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1					x		x	
CO2					x		x	
CO3		x					x	
CO4			x				x	

Course Content and Outcomes:

Content	**Competencies**	Number of Hours
Unit 1:		
Communication Skills	1. Define Communication (C1) 2. Outline the process and barriers in Communication (C2) 3. Explain the types of communication (C2) (Oral, Verbal, non-verbal, dyadic) 4. How to improve spoken skills (C1)(Telephone, face – to- face) 5. How to improve communication (C1) 6. Apply the concepts of communication skills in a professional setting (C3) 7. Identify the difference between formal and informal communication (C3)	6

Content	Competencies	Number of Hours
Unit 2:		
Reading Skills	1. Explain the types of reading (C2) (Oral, Silent, Extensive, Scanning, Skimming) 2. Outline the reading techniques (C2) (3Q3R) 3. What is the difference between scanning and skimming(C1) 4. Define source of information (C1) 5. Explain feedback on LSWR in individual presentation (C2) 6. Summarise the role played by prepositions in understanding what to read (C2)	4
Unit 3:		
Listening Skills	1. Explain the types of listening (C2) 2. Summarize the context and purpose of listening (C2) 3. Explain various types of listening obstacles (C2) 4. How to improve hearing and focused listening (C1) 5. What is facilitating understanding, static & process description-gambits (C1)	8
Unit 4:		
Writing skills	1. What is the difference between spoken and written form (C1) 2. How words are formed into phrases & clauses (C1) 3. Outline writing paragraphs, cohesion, coherence (C2) 4. Explain summary, precise and essay writing (C2) 5. How to write a formal and informal letters (C1) 6. How to write a resume /CV(C1) 7. Explain the role of visual aids and meetings in writing (C2) 8. Explain the importance of abbreviations and punctuations in writing(C2)	8

Learning Strategies, Contact Hours and Student Learning Time (SLT):

Learning Strategies	Contact Hours	Student Learning Time (SLT)
Lecture	26	78
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**26**	**78**

Assessment Methods:					
Formative:	**Summative:**				
Assignments	Mid Semester/Sessional Exam (Theory)				
Mapping of Assessment with COs:					
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**
Assignments		x	x	x	
Mid Semester / Sessional Examination		x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main Reference:	1. Jain, A K & et al., (2008-5th Edition). *Professional Communication Skills*, 2008, New Delhi, S Chand and Company 2. Raman, M., & Singh, P. (2012). *Business communication*. New Delhi: Oxford University Press				
Additional References	3. Raman, M & Sharma, S (2014). *Technical communication: Principles and Practice.* New Delhi: Oxford University				

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Environmental Science**
Course Code	**EIC1001**
Academic Year	Second Year
Semester	IV
Number of Credits	1
Course Prerequisite	Nil
Course Synopsis	1. Aim to give students a general understanding of environmental science and introduce them to some of the main principles 2. It covers the study of subjects for example understanding of earth procedures, evaluating alternative energy frameworks, mitigation and pollution control, natural resource management, effects of global climate change and so on

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Explain the role of Environmental Science, its multidisciplinary nature in conservation of global environment.(C2)
CO2	Describe the natural resources, utility and the role of ecosystems in maintaining planetary cycles. (C2)
CO3	Outline the types, sources, prevention and control measures of pollution. (C2)
CO4	List the laws, acts and policies related to environmental protection in India. (C1)
CO5	Explain the types, mitigation and management techniques of disaster.(C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x					x		
CO2	x			x				
CO3	x					x		
CO4			x				x	
CO5			x			x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Environmental Studies and multi-disciplinary nature	1. Explain the meaning, objectives and major environmental issues (C2) 2. What is sustainable development? (C1) 3. Explain the global environmental concerns (C2)	2
Unit 2:		
Biodiversity ,Ecosystem, Energy and natural	1. Classify the natural resources (C2) 2. List the renewable and non- renewable resources (C1)	4

Content	Competencies	Number of Hours
resources	3. Outline the consumption of renewable and non-renewable resources 4. Explain the conservation methods of renewable and non-renewable resources 5. Outline the availability of water resources, forest, land and mineral resources. 6. Summarize the different types of energy (C2) (Conventional sources & Non-Conventional sources of energy, solar energy, Hydro electric energy, Wind Energy, Nuclear energy, Biomass & Biogas, Fossil Fuels, Hydrogen as an alternative energy) 7. Define Ecosystem (C1) 8. Explain the meaning, structure and functions of ecosystem (C2) 9. Explain the biotic and abiotic components of ecosystem (C2) 10. Describe the trophic levels in ecosystem (C2) 11. What is an energy flow in an ecosystem (C1) 12. Explain Biodiversity and its conservation (C2) (in situ & ex situ, IUCN red list)	
Unit 3:		
Environmental Pollution	1. Explain the various types of Environmental Pollution (C2) (water, air, land, noise, solid waste, Biomedical waste, nuclear pollution, marine pollution)	2
Unit 4:		
Environmental laws and legislations	1. Outline the environmental laws and legislations (C2) (Related to general, air, water, biodiversity and forests) 2. Explain the roles and responsibilities of state and central Pollution control Boards (C2) 3. What is Environmental impact assessment (EIA) (C1)	2
Unit 5:		
Disaster management	1. Define disaster (C1) 2. What is disaster management? (C1) 3. Classify the types of disaster (C2) 4. What is disaster risk formula (C1) 5. Explain the phases in Disaster management phases (C2) (Disaster management cycle, Emergency response and recovery, Hazardous waste spills and dangers posed)	3

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	13	39
Seminar	-	-

Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	-	-
Assessment	-	-
Total	**13**	**39**

Assessment Methods:	
Formative:	**Summative:**
Assignments	Mid Semester/Sessional Exam (Theory)

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Assignments			x	x	x
Mid Semester / Sessional Examination	x	x	x		

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Benny Joseph, Environmental Studies, Tata McGraw-Hill Publishing Company Ltd., New Delhi (2008). 2. Aloka Debi, “Environmental Science and Engineering”, Universities Press (India) Pvt. Ltd. (2012).
Additional References	1. Mohan kanda, Disaster Management in India evolution of institutional arrangements & operational strategies. (2017) 2. Student guide: Environment Reader for Universities, based on UGC syllabus published by Centre for Science and Environment, (2017). 3. G.Swarajya Lakshmi, Environmental science: A Practical Manual, (2010).

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Indian Constitution**
Course Code	**EIC1001**
Academic Year	Second Year
Semester	IV
Number of Credits	01
Course Prerequisite	Nil
Course Synopsis	1. To provide understanding of knowledge of the Indian constitution. 2. To familiarize students with the fundamental rights and duties. 3. To understand the importance of constitutional laws. 4. To understand the correlation between Indian constitution, democracy and society.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Explain the salient features, importance and need of the Constitution (C2)
CO2	Infer the need of fundamental rights in a democratic system for a holistic development of a society (C2)
CO3	Outline the directions given to the state by the constitution and fundamental duties of a citizen towards the state. (C2)
CO4	Explain the working nature of State and Centre, roles and responsibilities of President and Governors, amendments emergency powers enjoyed by the government (C2)
CO5	Explain various laws listed under IPC and CrPC and understand importance of voting in a democracy and RTI (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x						x	
CO2				x	x			
CO3			x				x	
CO4						x		x
CO5				x			x	

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Introduction to Indian Constitution	1. Outline the evolution of the Legal System (C1) (pre-colonial and colonial times, Common Law, Civil Law and Socialist Legal System) 2. Explain the constitutional history and constitutional assembly (C2) 3. Explain the various organs of the Government (C2) (Executive, Legislature and Judiciary, and	3

Content	Competencies	Number of Hours
	Panchayat institutions) 4. Summarise the functions of high court and supreme court of India (C2)	
Unit 2:		
Fundamental Rights	1. Explain the individual rights and fundamental rights (C2) 2. Outline the history of the demand for fundamental rights (C2) 3. Classify the fundamental rights (C2) 4. Explain how fundamental rights are a guarantee against state action (C2) 5. Summarise Article 14 to Article 30 (C2) 6. Explain supreme court as the guardian of Fundamental Rights (C2)	4
Unit 3:		
Fundamental Duties and Directive Principles of State Policy	1. Explain fundamental duties and its enforcement (C2) 2. Summarise the utility and the scope of DPSP(C2) 3. Outline the socialistic pattern of society (C2) 4. Explain the conflict between fundamental rights and DPSP (C2)	3
Unit 4:		
Role of President and Governors/ Cabinet	1. What is the procedure followed while electing a President (C1) 2. Explain the power and duties of the President (C2) 3. Outline the power and duties of the Governors(C2) 4. Explain the role and functions of the council of Ministers (C2)	2
Unit 5:		
Role of citizens, Constitutional laws(IPC and CrPC), RTI	1. Explain the role of citizens in a democracy (C2) 2. Explain constitutional laws (C2) 3. Explain the Indian Penal Code and Code of Criminal Procedure (C2) 4. Summarise right to Information (C2)	3

Learning Strategies, Contact Hours and Student Learning Time (SLT):

Learning Strategies	Contact Hours	Student Learning Time (SLT)
Lecture	15	45
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	**-**	**-**

Assessment	**-**	**-**
Total	**15**	**45**

Assessment Methods:						
Formative:	**Summative:**					
Assignments	Mid Semester/Sessional Exam (Theory)					
Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Assignments		x		x	x
Mid Semester / Sessional Examination	x	x	x		

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	1. Subhash C**.** Kashyap, Our Constitution, National Book Trust. (2011) 2. P. M. Bhakshi. The Constitutution of India. Universal Law Publishing.(2017)
Additional References	1. Dr. B. R. Ambedkar. The Constitution of India. Educreation Publishing. (2020) 2. Bipan Chandra.History of Modern India. Orient BlackSwan. (2009) 3. Dr. Durga Das Basu. Introduction to the Constitution of India. Lexis Nexis.(2013)

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Neurology**
Course Code	**ASL1201**
Academic Year	First year
Semester	II
Number of Credits	4
Course Prerequisite	Basics in biology
Course Synopsis	In this course student will be introduced to • field of neurology and its relevance to speech, language, and hearing functions. • basic neuroanatomy and neurophysiology. • neural organization of speech and hearing disorders. • developmental and acquired neurogenic speech and language disorders as well as swallowing disorders.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Understand the general neuroanatomy and neurophysiology (C2)
CO2	Understand the neural bases of speech, language, hearing and swallowing processes (C2)
CO3	Appreciate the neural etiologies that cause speech, language, hearing, and swallowing disorders (C2)
CO4	Identify the neurogenic disorders that could potentially lead to speech, language, hearing, and swallowing disorders (C2)
CO5	Understand the management options for neurogenic speech, language, hearing, and swallowing disorders (C2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3	x	x						
CO4	x	x						
CO5	x	x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Anatomy and physiology of the nervous system	a) Summarize the basic neurological concepts (C2) b) Explain the organization of the neural system (C2) c) Explain the central, peripheral and autonomic neural system (C2) d) Outline the neural structures and functions (C2) e) Identify the cranial nerves relevant for speech, language, hearing and balance (C3) f) Summarize cerebral blood supply, nourishment	12

Content	Competencies	Number of Hours
	and protection of the brain (C2) g) Explain the general principles of neural organization (C2) h) Explain the transmission of information in neural system – nerve fibers, synaptic transmission, action potential, chemical transmission, excitatory and inhibitory potential & neuromuscular transmission (C2) i) Explain the cerebral plasticity and development of neural plasticity and cerebral dominance (C2)	
Unit 2		
Neural organization of speech and hearing processes	a) Summarize the neurosensory organization of speech and hearing (C2) b) Explain the central auditory nervous system c) Explain the anatomy of oral sensation and oral sensory receptors (C2) d) Explain neuromotor control of speech (C2) e) Explain the pyramidal, extra-pyramidal system, basal ganglia and cerebellar system (C2) f) Explain lower and upper motor neuron (C2) g) Explain alpha and gamma motor neurons (C2) h) Summarize the sensory and motor examination, oral, peripheral and other reflexes (C2) i) Explain the swallowing mechanism and neural control (C2) j) Summarize the screening and bedside neurological examination (C2)	12
Unit 3		
Neural disorders associated with speech and hearing disorders – I	a) Summarize neural infections – meningitis, encephalitis (C2) b) Summarize the developmental anomalies – spinal cord defects, syringomalacia and bulbia, Arnold Chiari malformations (C2) c) Summarize Hydrocephalus – source and circulation of CSF, types and etiopathogenesis (C2) d) Explain UMN lesions –spastic dysarthria (C2) e) Explain LMN lesions –flaccid dysarthria (C2) f) Summarize Mixed lesions (C2) g) Summarize extra pyramidal lesions – dyskinetic dysarthria (C2) h) Summarize Cerebellum and cerebellar pathway lesions – ataxic dysarthria (C2) i) Summarize other diverse lesions and dysarthrias (C2)	12
Unit 4		
Neural disorders associated with speech and hearing disorders – II	a) Explain cerebrovascular diseases – ischemic brain damage – hypoxic ischemic encephalopathy, cerebral infarction – intracranial haemorrhage – intracranial, subarachnoid (C2) b) Summarize trauma to the CNS – subdural	12

Content	Competencies	Number of Hours
	hematoma, epidural hematoma, parenchymal brain damages (C2) c) Summarize demyelinating diseases – multiple sclerosis, perivenous encephalomyelitis, dementia (C2) d) Summarize degenerative, metabolic and nutritional disorders – Alzheimer's disease, parkinsonism (C2) e) Summarize metabolic, hereditary, acquired, neuronal storage disorders (C2) f) Explain Wilson's disease, phenylketonuria (C2) g) Summarize Nutritional – Wernicke's encephalopathy, pellagra (C2) h) Summarize alcoholic cerebellar degeneration (C2) i) Explain clinical-pathological methods and neuro imaging (C2) j) Summarize tumours of the CNS – gliomas, embryonal tumours of meninges, metastasis, malignant tumors (C2)	
Unit 5		
Speech-language and swallowing disorders	a) Summarize the central language mechanism and its disorders (C2) b) Summarize developmental motor speech disorders – cerebral palsy, muscular dystrophy (C2) c) Summarize neurologic disorders with primitive reflexes, diagnosis and management (C2) d) Summarize clinical neurological syndromes associated with speech and language disorders (C2) e) Summarize childhood language disorders associated with neurologic disorders (C2) f) Summarize swallowing associated with neurogenic disorders and assess mastication and deglutition (C2) g) Explain agnosia and other conditions associated with speech and hearing disorders (C2) h) Summarize cognitive disorders associated with neurologic disorders (C2) i) Explain the general management principles and options for childhood neurogenic speech, language and hearing disorders (C2) j) Explain general management principles and options for adult neurogenic speech, language and hearing disorders (C2)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	05	-
Small group discussion (SGD)	-	-

Self-directed learning (SDL)	10	-
PBL / CBL	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Unit Test	Sessional Exam I & II
Assignments	End Semester Exam

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x			
Sessional Examination 2			x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	1. Bhatnagar, S.C. (2012). Neuroscience for the Study of Communicative Disorders. Lippincott, Williams & Wilkins 2. Garden, E. (1968). Fundamental of neurology, V Edn., Philadelphia: Sarenders Co. 3. Webb, W. G., & Adler, R. K. (2008). Neurology for the speech-language pathologist (5th ed.). St. Louis, Mo: Mosby/Elsevier. 4. Duffy, J. R. (2013). Motor Speech Disorders: Substrates, Differential Diagnosis, and Management (3rd Ed.). University of Michigan, Elsevier Mosby.
Additional reference	1. VanRiper & Erickson R. Speech correction:An introduction to speech pathology and audiology, 9th edition 1996 2. Adams, R.D. &Sidman, R.L. (1968). Introduction to neuropathology. New Jersey: McGraw-Hill.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Otolaryngology**
Course Code	**ASL1202**
Academic Year	First year
Semester	II
Number of Credits	4
Course Prerequisite	Have basic knowledge about anatomy of ear, pharynx, larynx and oesophagus.
Course Synopsis	This module Orients and familiarizes students towards the basic applied anatomy of ENT. Enables the students to understand common clinical conditions of ENT, and related implications on speech, hearing and swallowing. Briefly introduces students to common surgical procedures in ENT with their implications on quality of life and scope for rehabilitation – hearing, speech and swallowing

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Explain the basic anatomy of ear and disorders of external ear and middle ear (C2)
CO2	Describe the disorders of inner ear and vestibular system. Outline the indications, contraindications, surgical procedures, complications and post-surgery care of implantable hearing devices. (C2)
CO3	Define the anatomy and physiology of pharynx, oral cavity and its disorders (C1)
CO4	Define anatomy and physiology of larynx and scope for rehabilitation of speech and voice with respect to ENT disorders and their treatments. (C1)
CO5	Define the anatomy and physiology of esophagus. Demonstrate reasonable knowledge of recent advances with respect to clinical manifestations and rehabilitation of swallowing disorders. (C1)

Mapping of Course Outcomes (Cos) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3	x							
CO4	x							
CO5	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
External and middle ear and their disorders	a) Explain Clinical anatomy of the ear (C2) b) Define Congenital anomalies (C1) c) Explain diseases of the external ear (C2)	12

Content	Competencies	Number of Hours
	d) Define tumors of the external ear (C1) e) Perforation and ruptures of tympanic membrane f) Define Eustachian tube dysfunction (C1) g) Define Otitis media with effusion (C1) h) Define Cholesteatoma and chronic suppurative otitis media (C1) i) Define Otosclerosis (C1) j) Define trauma to temporal bone (C1) k) Define facial nerve and its disorder (C1)	
Unit 2:		
Inner ear and its disorders	a) List Congenital anomalies (C1) b) Define Meniere"s Disorder (C1) c) Define Ototoxicity (C1) d) Define Presbyacusis (C1) e) List disorders of vestibular system (C1) f) Define Vestibular Schwannoma (C1) g) Explain Tinnitus and medical line of treatment (C2) h) Describe pre-surgical medical and radiological evaluations for implantable hearing devices (C2) i) Recite overview of surgical technique for restoration and preservation of hearing (C1) j) Describe post-surgical care and complication of surgery for cochlear implants (C2) k) Recite overview of surgical technique, post-surgical care and complication of surgeries for implantable bone conducted hearing aids and middle ear implant (C1)	12
Unit 3:		
Oral cavity, pharynx and their disorders	a) Describe Anatomy of the oral cavity (C2) b) List common disorders of the oral cavity (C1) c) List tumours of the oral cavity (C1) d) Define Cleft lip and palate - medical aspects (C1) e) Describe clinical anatomy and physiology of pharynx (C2) f) Describe Inflammatory conditions of the pharynx, tonsils and adenoids (C2) g) List tumors of the pharynx (C1)	12
Unit 4:		
Larynx and its disorders	a) Describe clinical anatomy of larynx (C2) b) List the difference between adult and infant larynx (C1) c) Record Clinical examination of larynx (C1) d) Define Stroboscopy - technique, procedure, interpretation and precautions (C1) e) List Congenital laryngeal pathologies (C1) f) List Inflammatory conditions of the larynx (C1) g) Describe Vocal nodule and other disorders of the vocal folds (C2) h) Benign and malignant tumours of the larynx i) Define Laryngectomy – overview of surgical	12

Content	Competencies	Number of Hours
	procedure (C1) j) Define Phono surgery and other voice restoration surgeries (C1)	
Unit-5:		
Esophagus and its disorders	a) Describe clinical anatomy and physiology of esophagus (C2) b) Record clinical examination of esophagus (C1) c) List congenital anomalies of esophagus (C1) d) Define Esophageal fistula (C1) e) Define Inflammatory conditions of esophagus (C1) f) List benign conditions of esophagus (C1) g) List malignant conditions of the esophagus (C1) h) List Airway management procedures (C1)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	13	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	-	-
Revision	2	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Sessional Exam I & II
Quiz	End semester exam

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional examination 1	x	x	x		
Sessional examination 2			x	x	x
End semester examination	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Reference:	1. PL Dhingra and Shruti Dhingra (2017). Diseases of Ear, Nose and Throat & Head and Neck surgery. Seventh Edition. Elsevier.

	2. P Hazarika, DR Nayak and R Balakrishnan (2019). Textbook of Ear, Nose, Throat and Head-Neck Surgery. Fourth Edition. CBS Publishers & Distributors Pvt Ltd.
Additional Reference:	1. Chan, Y. and Goddard, J.C. (2015). K J Lee‟s Essential otolaryngology: head and neck surgery. (11th edition). New Delhi: Atlantic Publisher and Distributers 2. O‟Neill, J.P. and Shah, J.P. (2016). Self-assessment in otolaryngology. Amsterdam: Elsevier 3. Postic, W.P., Cotton, R.T., Handler, S.D. (1997). Ear trauma. Surgical Pediatric Otolaryngology. New York: Thieme Medical Publisher Inc. 4. Wackym, A. and Snow, J.B. (2015). Ballenger‟s otorhinolaryngology head and neck surgery. (18th edition). United States: McGraw-Hill Medical

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Speech-Language Pathology**
Course Code	**ASL1231**
Academic Year	First year
Semester	II
Number of Credits	3
Course Prerequisite	Basic theoretical understanding of speech & language skills and observation of cases in clinical setup
Course Synopsis	This module will provide the student with the fundamental clinical knowledge of speech language pathology

Course Outcomes (COs): At the end of the course student shall be able to:

CO1	To demonstrate an understanding of the diagnostic procedures and counselling for speech language disorders (C2, P2, A2)
CO2	To demonstrate an understanding of the therapeutic procedures for speech language disorders (C2, P4)
CO3	To identify the format of diagnostic report writing and therapeutic report writing (C2, P4, A1)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x							
CO3		x						

Course Content and Outcomes:

Content	Competencies	Number of Hours
Know (Concepts)	Describe the list of speech language stimulation techniques and other therapy techniques for various speech disorders (C2, P1)	1
	Identify the sources for referral and parent counselling procedures (C2, P1)	1
Know-How (Ability to apply)	Prepare a report on the available audiovisual material and printed material/pamphlets relating to speech-language pathology, public education of communication and hearing disorders, etc. (C2, P2)	1
	Prepare a report on the available clinical facilities and clinical activities of the institute (C2, P2)	1
Show (Demonstrate in a clinical diary/log book based on clinical reports/recordings,	Prepare a model diagnostic report of a patient with speech and language disorder (C2, P2)	1
	Prepare a diagnostic and therapy kit (P2)	2
	Prepare reports for the observation of the evaluation process and counselling of at least 5 different speech and language disorders in children (P2, A1)	2

Content	Competencies	Number of Hours
etc.)	Prepare reports for the observation of evaluation process and counselling of at least 5 different speech and language disorders in adults (P2, A1)	2
	Prepare reports for the observation of diagnostic procedures (P2, A1)	2
	Prepare reports for the observation of various therapeutic methods carried out with children and adults with speech and language disorders (P2, A1)	2
Do (Perform on patients/ client contacts)	Perform case history taking for a minimum of 10 individuals (5 normal & 5 clients with complaints of speech-language problems) (P4, A2)	5
	Perform the perceptual analysis of speech and language parameters in normal (2 children and 2 adults and persons with speech disorders (3 adults + 3 children) (P4, A2)	5

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	115	-
Practical	25	75
Revision	-	-
Assessment	-	-
Total	**135**	**75**

Assessment Methods:	
Formative	**Summative**
Practical record book	End Semester External Viva (Clinical)
Class Test	
Internal Viva (Clinical)	

Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Practical record book	x	x	x
Class Test	x	x	
Internal viva	x	x	x
End Semester External viva	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	1. Shipley, K. G., & McAfee, J. G. (2016). Assessment in speech-language pathology: A resource manual (5th ed.). Australia; Clifton Park, NY: Delmar Learning. 2. Roth, F. P., & Worthington, C. K. (2005). Treatment resource manual for speech language pathology (3rd ed.). Australia; Clifton Park, NY: Thomson Delmar Learning.
Additional reference	1. Tomblin, J. B., Morris, H. L., & Spriestersbach, D. C. (Eds.). (1994). *Diagnosis in Speech-Language Pathology*. Singular Publishing Group.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Audiology**
Course Code	**ASL1232**
Academic Year	First year
Semester	II
Number of Credits	3
Course Prerequisite	Basic theoretical understanding of audiology concept, test and observation of cases in clinical setup
Course Synopsis	The module will make the student learn the fundamental practical knowledge on audiological test

Course Outcomes (COs): At the end of the course student shall be able to:

CO1	Demonstrate basic and routine audiological tests to assess normal hearing subjects (C1, P3)
CO2	Apply basic and routine audiological tests on clinical population (C2, P4)
CO3	Analyse basic audiological tests findings of the clinical population (C1, P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2		x						
CO3		x	x					

Course Content and Outcomes:

Content	Competencies	Number of Hours
Know (Concepts)	Explain the different types of calibration, its procedure and analysis (C3, P2) Show the different instruments used in calibration, its connections and settings (C3,P2) Demonstrate DLI, DLF test (C3,P3) Make use of formulas and calculation procedure of SONE and MEL (C3,P3) Identify the need for masking, calculating masking noise (C3,P2)	6
Know-How (Ability to apply)	**Subjective calibration:** Identify the correction factor and prepare a correction chart by obtaining thresholds on normal hearing participants or based on the clinical population (C2, P1) **Objective calibration:** Identify the different equipment's used in calibration and write its corresponding function. Sound level meter: identify the parts and technical aspects of SLM, setting up SLM to calibration (C2, P1) Plan a calibration setups for Air conduction and Bone conduction (C2, P1)	8

Content	Competencies	Number of Hours
	Analyse the obtain readings on the SLM and adjust correction values, AC(Headphone, Inserts), BC (P1) Demonstrate Daily listening check (P1) Experiment with DLI and DLF (C2, P1) Measure equal loudness curve (C2) Measure MCL and UCL (C2, P1) Estimate SONE for a given intensity (C1) Estimate MEL for a given frequency (C2, P1) Analyse the requirement of masking based on the provided audiogram (C2, P1) Apply Katz method and do clinical masking (C2, P1) Apply Martin masking method and do clinical masking (C2, P1) (C2, P1) Demonstrate AC, BC and Speech Masking (C2, P1)	
Show (Demonstrate in a clinical diary/log book based on clinical reports/recordings, etc.)	Explain the calibration procedure with neat labelled diagram (C3,P4) Explain the steps involved in masking procedure (C3,P3) Explain the DLI, DLF and equal loudness curve procedure (C3,P3) Explain the procedure used in calculating SONE and MEL (C3,P3)	8
Do (Perform on patients/ client contacts)	Construct a correction factors chanrt by obtaining thresholds on normal hearing participants or based on the clinical population (C2, P4) Select the instruments for AC, BC & insert calibration and take the reading (C2, P4) Experiment with DLI, DLF and Equal loudness curve on normal and clinical population (C2, P4) Construct a SONE and MEL values for the given intensity and frequency (C2, P4) Plan for calibration of audiometer based on audiogram (C2, P4) Demonstrate masking using Martin and Katz method (C2, P4) Demonstrate daily listening check for three audiometers (C2, P4)	8

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-

Case Based Learning (CBL)	-	-
Clinic	105	-
Practical	30	90
Revision	-	-
Assessment	-	-
Total	**135**	**90**

Assessment Methods:			
Formative	**Summative**		
Practical record book	End semester clinical viva (external)		
Internal Viva (Clinical)			
Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Practical record book	x	x	x
Internal viva / test	x	x	x
End Semester External viva	x	x	x
Feedback Process:	Mid-Semester Feedback		
	End-Semester Feedback		
Main reference	• Gelfand, S. A. (2009). Hearing: An Introduction to Psychological and Physiological Acoustics (5 edition.). London: CRC Press. 39 • Katz, J. (2014). Handbook of Clinical Audiology (7th International edition edition.). Lippincott Williams and Wilkins. • Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology. Boston: Pearson. • Silman, S., & Silverman, C. A. (1997). Auditory Diagnosis: Principles and Applications (Reissue edition.). San Diego: Singular Publishing Group		
Additional reference	• Kaplan, H., Gladstone, V. S., & Lloyd, L. L. (1993). Audiometric Interpretation: A Manual of Basic Audiometry (2 edition.). Boston: Pearson.		

SEMESTER - III

COURSE CODE	:	COURSE TITLE
ASL2121	:	Voice and its Disorders
ASL2122	:	Speech Sound Disorders
ASL2123	:	Diagnostic Audiology: Behavioral Tests
ASL2124	:	Amplification Devices
ASL2131	:	Clinical in Speech Language Pathology
ASL2132	:	Clinical in Audiology
*** ****	:	Open Elective - I

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Voice and its Disorders**
Course Code	**ASL2121**
Academic Year	Second year
Semester	III
Number of Credits	4
Course Prerequisite	Basics in Anatomy & Physiology of Speech Mechanism
Course Synopsis	The module will provide information on the mechanics and its correlates of the voice production. It will enable the students to identify the abnormalities in the voice and identify the causes and thereby plan appropriate assessment protocol and management

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Understand the mechanics of voice production, development of voice and identify the abnormality in the voice (C4, P2)
CO2	Associate the abnormality with etiology, signs and symptoms categorizing the various voice disorders (C4, P4)
CO3	Examine and integrate the various procedures in the assessment protocol (C4, P5)
CO4	Simulate the various voice therapy techniques and implement on individuals with voice disorders (C4, P5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2			x	x				
CO3				x	x			
CO4				x	x			

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Basic concepts in voice and its production	a) Summarize the basic structures and functions of respiratory system towards phonation (C2,P1) b) Explain the different structures and functions involved the mechanism of the voice production (C2, P1) c) Explain the functions of voice (C2,P3) d) Explain the production of voice in relation to the theories proposed (C2,P1) e) Express the impact of resonance on voice (C2,P1) f) Demonstrate the transition in development of voice structurally	12

Content	Competencies	Number of Hours
	functionally (C3,P2) g) Comprehend the aerodynamic, physiologic and acoustic correlates of voice production (C3,P4) h) Able to analyse the differences between normal and abnormal samples (C4,P4)	
Unit 2		
Characteristics and pathophysiology of voice disorders	a) Comprehend the various voice disorders (C2,P1) b) Compare and Classify the disorders based on their pathophysiology and characteristics (C3,P3) c) Illustrate the impact of neural damage and systemic illness on voice disorders (C2,P3) d) Describe the life span changes in voice mechanism anatomically, physiologically, aerodynamically and acoustically (C3, P3) e) Recognize the needs of specific and culturally diverse populations (C3,P5) f) Identify high risk population and their specialized evaluation and treatment (C4,P5)	12
Unit 3		
Assessment of voice	a) Outline the protocol based on ICF model (C2,P5) b) Apply the principles of measurements of voice in the laboratory (C3,P4) c) Outline a complete evaluation protocol and identify clinically appropriate assessment tools. Include history, acoustic and aerodynamic measures, perceptual ratings, imaging, and electroglottography (C4, P5) d) Interpret subjective and objective voice production data using current literature (C3,P4)	12
Unit 4		
Management of voice	a) Identify techniques for prevention of voice disorders and promotion of vocal wellness in varied clinical and educational settings (C4, P4)	12
Unit 5		
Intervention strategies for voice disorders	a) Identify evidence-based treatment approaches and outcomes to voice disorders - behavioral, medical (including pharmacological), surgical, and combination strategies (C4,P4)	12

Content	Competencies	Number of Hours
	b) Describe appropriate management procedures including recommendations and referrals (C4,P5)	

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	03	-
Small group discussion (SGD)	02	-
Practical	10	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Unit Test	Two Sessional Exam I & II
Assignments	End Semester Exam

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Sessional Examination 1	x	x		
Sessional Examination 2			x	x
Quiz / Viva	x	x	x	x
Assignments			x	x
Practical / Record Book			x	x
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	• Stemple, J. C., Glaze, L. E., & Gerdeman, B, K. (2014). Clinical voice pathology: Theory & Management (5th Ed.). San Diego: Plural publishers. • Boone, D. R., McFarlane, S. C, Von Berg, S. L. & Zraick, R, I. (2013): The Voice and Voice Therapy. (9th Ed.). Englewood Cliffs, Prentice-Hall, Inc. New Jersy. • Colton, R. H, Casper, J. K. & Leonard, R. (2006). Understanding voice problems. Baltimore: Williams & Wilkins.
Additional reference	• Aronson, A.E. & Bless, D. M. (2009). Clinical Voice Disorders.(4th Ed.). New York: Thieme, Inc. • Sapienza, C. M., & Ruddy, B H. (2013). Voice Disorders.(2nd Ed.). San Diego: Plural Publisher. • Professional Voice: Assessment and Management. Proceedings of the national workshop on “Professional Voice: Assessment and management”, 9-10 Dec 2010. All India Institute of Speech & Hearing, Mysore. 2010.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Speech Sound Disorders**
Course Code	**ASL2122**
Academic Year	Second year
Semester	III
Number of Credits	4
Course Prerequisite	To have basic knowledge on anatomy and physiology of articulatory system
Course Synopsis	This course will introduce the normal course of speech sound development as well as the classification of various speech sound disorders. It will explain the articulatory phonetics, acoustic properties, as well as the transcription system of speech sounds. Various factors affecting the speech sound development and its disorders will be discussed as well as the detailed assessment and management of speech sound disorders.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Understand and describe the basic concepts related to speech sound development and disorders in children. (C2, P1)
CO2	Understand various classification systems and differentiates different terminologies related to speech sound disorders. (C3, P1)
CO3	Identify and explain the factors effecting speech sound development (C4, P1)
CO4	Perform clinical evaluation and differential diagnosis of speech sound disorders with required error analysis and synthesis. (C5, P3)
CO5	Plan and demonstrate the intervention for individual with speech sound disorders by selecting appropriate intervention approaches (C5, P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x						x	
CO2	x						x	
CO3	x						x	
CO4		x				x		
CO5		x				x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Speech sound acquisition and development	a) Describe the fundamentals of articulatory phonetics of vowels & consonants. (C2, P1) b) Explain theories of phonology such as generative phonology, natural phonology, and optimality theory. (C2, P1) c) Explain the methods to study speech sound	12

Content	Competencies	Number of Hours
	acquisition such as diary studies, cross sectional studies and longitudinal studies. (C2, P1) d) Describe the ages and stages of speech sound acquisition: Birth to one year (development of infant speech perception, early speech production), one to two years (consonant inventories, influence of phonological knowledge on vocabulary acquisition), two to five years (growth of phonetic, phonemic, phonotactic inventory –consonants, clusters, phonological patterns), above five years (speech sound mastery and development of literacy –phonological awareness). (C2, P1) e) Explain acoustics of speech sounds. (C2, P1) f) Explain the factors affecting speech intelligibility and assessment of speech intelligibility. (C2, P1) g) Explain the concept of coarticulation with its types and effects (C2, P1) h) Describe the phonological development in bilingual children and Indian languages. (C2, P1)	
Unit 2		
Assessment of speech sound disorders	a) Explain the current concepts in terminology and classification of speech sound disorders. (C2, P1) b) Summarize the organically-based speech sound disorders and speech sound disorders of unknown origin. (C2, P1) c) Outline the classification of speech sound disorders by symptomatology. (C2, P1) d) Explain the factors related to speech sound disorders: Structure and function of speech & hearing and oro-sensory mechanism, cognitive – linguistic, psychosocial and social factors, metalinguistic factors. (C2, P1) e) Explain the aims of assessment, screening and comprehensive assessment. (C2, P1) f) Demonstrate the speech sound sampling procedures. (C4, P3) g) Explain the issues related to single word and connected speech samples; imitation and spontaneous speech samples. (C2, P2) h) Outlines and performs the speech sample recording procedure. (C3, P3) i) Describe and performs contextual testing procedures. (C4, P3) j) Appraise the tests in English and other Indian languages including single word articulation tests, deep articulation of articulation, and computerized tests of phonology. (C4, P1) k) Explain the Influence of language and dialectal variations in assessment. (C2, P1) l) Demonstrate the transcription of speech sample	12

Content	Competencies	Number of Hours
	and transcription methods (C3, P3) m) Describe IPA and extension of IPA. (C2) n) Demonstrate broad and narrow transcription. (C3, P3)	
Unit 3		
Assessment of speech sound disorders - II	a) Compare and contrast independent analysis with relational analysis. (C4, P1) b) Explain the types of independent analyses such as phonetic inventory, phonemic inventory and phonotactic inventory. (C2, P1) c) Describes and performs relational analyses such as SODA and pattern analysis, (distinctive features, phonological process analysis). (C4, P4) d) Explains and performs the phonological processes analyses with error identification and classification. (C4, P4) e) Describe the language specific issues related to phonological process analysis. (C2, P1) f) Demonstrate the oral peripheral oral peripheral mechanism examination. (C3, P3) g) Explains and performs the speech sound discrimination assessment, phonological contrast testing and stimulability testing. (C3, P3) h) Describes and determines the need for intervention based on the speech intelligibility and speech severity assessment. (C3, P3) i) Explain the factors influencing target selection such as stimulability, frequency of occurrence, developmental appropriateness, contextual testing, and phonological process analysis. (C2, P1) j) Illustrate the documentation of assessment findings and determining the need for intervention through case study. (C2, P3)	12
Unit 4		
Management – I	a) Summarize the basic considerations in therapy such as target selection, framework for therapy, goal-attack strategies, organizing therapy sessions, and individual vs. group therapy. (C2, P1) b) Outline the treatment continuum followed in speech sound disorders that includes establishment, generalization and maintenance phase of therapy. (C2, P1) c) Describe the measurement of clinical change. (C3, P1) d) Summarize the procedure to facilitation of generalization. (C3, P2) e) Summarizes maintenance and termination phase of therapy. (C3, P2) f) Explain the principles of motor learning. (C2, P1) g) Explain the general guidelines for motor-based	12

Content	Competencies	Number of Hours
	treatment approaches. (C3, P1) h) Outline the motor-based treatment approaches. (C2, P3) i) Explains and illustrates discrimination/ear training and sound contrast training. (C3, P3) j) Describes and performs the establishment of correct production of target sound using the techniques such as imitation, phonetic placement, successive approximation, and context utilization. (C6, P3) k) Describes and utilizes the traditional approach, and contextual/sensory-motor approaches as intervention approaches. (C6, P4) l) Explain the use of technology in articulation correction. (C2, P1)	
Unit 5		
Management – II	a) Outline the general guidelines for linguistically-based approaches. (C2, P4) b) Outlines and makes use of linguistically-based treatment approaches during the intervention for speech sound disorders. (C2, P4) c) Explain specific linguistic-based approaches such as core vocabulary approach, minimal pair contrasts therapy, Metaphon therapy, Cycles approach, and broad-based language approaches. (C2, P3) d) Describe the phonological awareness and its relevance in phonological disorders. (C2, P1) e) Explain and performs the phonological awareness intervention for preschool children. (C2, P4) f) Summarize the intervention approaches to individuals from culturally and linguistically diverse backgrounds. (C2, P1) g) Explains and demonstrate the role of family in intervention for speech sound disorders. (C2, P4)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Self-directed learning (SDL)	2	-
Case Based Learning (CBL)	3	-
Clinic	-	-
Practical	10	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:					
Formative	**Summative**				
Unit Test	Sessional Exam I & II				
Assignments	End Semester Exam				
Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x	x		
Sessional Examination 2				x	x
End Semester Exam	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main reference	1. Bernthal, J.E., Bankson, N.W., & Flipsen, P. (2013). Articulation and phonological disorders.(7th Ed.). Boston, MA: Pearson 2. Gordon-Brannan, M. E., & Weiss, C. E. (2007). Clinical management of articulatory and phonologic disorders. Lippincott Williams & Wilkins. 3. Bauman-Waengler, J., & Camarillo, C. A. (2016). Articulation and Phonology in Speech Sound Disorders: A Clinical Focus 5e. 4. Peña-Brooks, A., & Hegde, M.N. (2000). Assessment and Treatment of Articulation and Phonological Disorders in Children: A Dual-Level Text.				
Additional reference	1. Bowen, C. (2014). Children's speech sound disorders. John Wiley & Sons. 2. Dodd, B. (2013). Differential diagnosis and treatment of children with speech disorder. (2nd Ed). NJ: Wiley. 3. Bleile, K. M. (2018). Speech Sound Disorders: From Classroom to Clinic. Plural Publishing				

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Diagnostic Audiology: Behavioral Tests**
Course Code	**ASL2123**
Academic Year	Second year
Semester	III
Number of Credits	4
Course Prerequisite	Student should have a basic knowledge in audiology regarding case history, signs and symptoms of hearing loss and pure tone audiometry.
Course Synopsis	The module will provide information regarding diagnostic tests used for assessing various auditory disorders, test battery approach and also enable them to make differential diagnosis based on these tests.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Understand characteristics of diagnostic tests, test battery approach, recruitment, adaptation, make adjustments in the test parameters to improve sensitivity and specificity of tests. (C3)
CO2	Classify and perform various tests used to differentiate cochlear and retro cochlear pathology. (C3, P4)
CO3	Comprehend and perform various tests used for diagnosing functional hearing loss. (C3, P4)
CO4	Describe Central Auditory Processing Disorders, Perform various Tests used for assessing CAPD. (C4, P4)
CO5	Identify and perform various tests used for assessing persons with vestibular disorders, tinnitus and hyperacusis. (C3, P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3		x						
CO4		x						
CO5		x	x					

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Introduction to diagnostic audiology	a) Explain the characteristics of a diagnostic test, difference between screening and diagnostic test, functions of a diagnostic test in Audiology (C1) b) Illustrate the need for test battery approach in auditory diagnosis and integration of results of audiological tests, cross-check principle (C3)	12

Content	Competencies	Number of Hours
	c) Explain the concept of sensitivity, specificity, true positive, true negative, false positive, false negative, hit rate (C2) d) Comprehend the definition of behavioural and physiological tests and their characteristics in diagnostic audiology (C2) e) Explain theories and physiological bases of recruitment (C2) f) Explain theories and physiological bases of adaptation (C2) g) Illustrate clinical indications for cochlear pathology, retro-cochlear pathology, central auditory processing disorders, functional hearing loss, vestibular disorders (C3)	
Unit 2		
Tests to identify cochlear and retro cochlear pathology	Demonstrate the following tests on normal and clinical population a. ABLB, MLB and SISI tests (C3,P4) b. Behavioural tests of adaptation (C3,P4) c. Bekesy audiometry (C3,P4) d. Brief tone audiometry (C3,P4) e. PIPB function (C3,P4) f. Glycerol test (C3,P4) g. g) Illustrate test to identify dead regions of cochlea (C3,P4)	12
Unit 3		
Tests to diagnose functional hearing loss	a) Illustrate the behavioural and clinical indicators of functional hearing loss (C3) Perform the following test to diagnose functional hearing loss b) Pure tone tests including tone in noise test, Stenger test, BADGE, puretone DAF (C3, P4) c) Speech tests including Lombard test, Stenger test, lip-reading test, Doerfler-Stewert test, Low level PB word test, Yes-No test, DAF test (C3, P4) d) Identification of functional hearing loss in children: Swinging story test, Pulse tone methods (C3, P4)	12
Unit 4		
Assessment of central auditory processing	a) Define APD and explain different behavioral processes (C2) b) Illustrate the behavioral and clinical indicators of central auditory processing disorders (C3) c) Comprehend Bottle neck and subtlety principles and their implications (C2) d) Demonstrate the tests to detect central auditory processing disorders e) Monaural low redundancy tests - filtered speech tests, time compressed speech test, speech-in-	12

Content	Competencies	Number of Hours
	noise test, SSI with ICM, other monaural low redundancy tests. (C3, P4) f) Dichotic speech tests – Dichotic digit test, Staggered spondaic word test, Dichotic CV test, SSI with CCM, Competing sentence test, other dichotic speech tests. (C3, P4) g) Binaural interaction tests – RASP, BFT, MLD, other binaural interaction tests (C3, P4) h) Demonstrate the tests of Temporal processing – pitch pattern test, duration pattern tests, other temporal ordering tests, gap detection test, TMTF (C3, P4) i) Illustrate the variables influencing the assessment of central auditory processing: Procedural and subject variables (C3) a) j) Analyse the test findings of important tests in subjects with central auditory disorders: brainstem lesion, cortical, CAPD in children. (C4)	
Unit 5		
Assessment of persons with vestibular disorder, tinnitus, hyperacusis	a) Describe the structure and function of vestibular system (C1) b) Explain Vestibular ocular reflex and vestibulo spinal reflex (C2) c) Describe about the other systems involved in balance (C1) d) Illustrate signs and Symptoms of vestibular disorders (C2) e) List the team in the assessment and management of vestibular disorders (C1) f) Demonstrate behavioral tests to assess vestibular functioning: Fukuda stepping test, tandem gait test, finger nose pointing, Romberg test, Sharpened Romberg test, Dix-Hallpike test, Log-roll test (C3, P4) g) Describe tinnitus and hyperacusis and tests for assessment (C1) h) Demonstrate Pitch matching, loudness matching, residual inhibition, Feldman masking curves (C3, P4) 1. i) Illustrate Johnson Hyperacusis Dynamic Range Quotient (C3)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-

Case Based Learning (CBL)	5	-
Clinic	-	-
Practical	10	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:					
Formative	**Summative**				
Unit Test	Sessional Exam I & II				
Assignments	End Semester Exam				
Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x	x		
Sessional Examination 2				x	x
Assignments			x	x	
Practical / Record Book		x	x	x	x
End Semester Exam	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main reference	1. Gelfand, S. A. (2009). Essentials of Audiology. Thieme. 2. Hall, J. W., & Mueller, H. G. (1996). Audiologists‟ Desk Reference: Diagnostic audiology principles, procedures, and protocols. Cengage Learning. 3. Katz, J., Medwetsky, L., Burkard, R. F., & Hood, L. J. (Eds.). (2007). Handbook of Clinical Audiology (6th revised North American edition). Philadelphia: Lippincott Williams and Wilkins.				
Additional reference	1. Jerger, J. (1993). Clinical Audiology: The Jerger Perspective. Singular Publishing Group.				

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Amplification Devices**
Course Code	**ASL2124**
Academic Year	Second year
Semester	III
Number of Credits	4
Course Prerequisite	Should have a basic understanding on electronics, types, degree and etiology of hearing loss
Course Synopsis	The course will provide information regarding the basics of hearing aid, its elements, technological advancements, types of hearing devices and electro-acoustic verification of its functions. The course also deals with the selection, fitting and validation of hearing aids.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Understand the various types and technological feature of hearing aids (C2)
CO2	Performs the electro-acoustic verification of hearing aids in coupler (C3, P4)
CO3	Determines the candidacy and independently program digital hearing aids as per the audiological profile and listening needs of the client (C3, P3)
CO4	Independently verify the benefit of the hearing aid using subjective and objective methods and then recommend the appropriate hearing aid (C3, P3)
CO5	Make different types of earmolds (C3, P3)
CO6	Counsel the client and parents/care givers at all stages (C3, P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3	x	x						
CO4	x	x						
CO5	x	x						
CO6	x				x			

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Types of hearing aids	a) Recall the historical development of hearing aid (C1) b) Explain the basic elements of hearing aids (C2) c) Classify hearing aids, based physical style (C2) (Body level, BTE, ITE, ITC, CIC, IIC, modular, open fit and RIC hearing aid) d) Classify hearing aids, based signal processing and controls (C2) (Programmable, trimmer digital, digital hearing aids, directional hearing aids and Master hearing	12

Content	Competencies	Number of Hours
	aids) e) Classify hearing aids based on fitting methods (C2) (Binaural, pseudo binaural, monaural and implantable hearing aids) f) Classify personal and group devices (C2)	
Unit 2		
Technological aspects in hearing aids	a) Classify CROS aids (C2) b) Explain the concept of elimination of head shadow effect and demonstrate the benefit of "routing of the signal technology" (C2) c) Recognize the need for output limiting in hearing aids (C1) d) Explain the working principle of peak clipping and compression (C2) e) Classify compression based on time constants, static characteristics, frequency response pattern and stage at which the compression is implemented (C2) f) Explain signal processing techniques to compensate for speech perception deficits in noise (C2) g) Explain signal processing techniques to compensate for perceptual difficulties in individuals with high frequency hearing loss (C2)	12
Unit 3		
Electro-acoustic measurements for hearing aids	a) Comprehends the instrumentation for electro-acoustic characteristics (EAC) of hearing aids (C2) b) Examine the electro-acoustic characteristics (EAC) of hearing aids in coupler with appropriate stimulus calibration procedure (C4, P4). OSPL90, Full on Gain, Reference test Gain, Basic Frequency Response, Total Harmonic distortion, Intermodulation Distortion, input Output functions, attack and release time, EIN, battery current and telecoil sensitivity c) Utilize the EAC analysis to comment on the working condition of the hearing aid (C3) d) Compare and contrast BIS, ANSI and IEC standards for EAC measurement, analysis and interpretation. (C2) e) Determine the functional deficits in the hearing aid by performing appropriate trouble shooting procedure (C3, P4)	12
Unit 4		
Selection of hearing aids	a) Select the appropriate candidate for hearing aid with help of behavioural, electro-physiological and questionnaire-based techniques. (C3) b) Choose the appropriate hearing aid features and models by perusing the results of behavioural, electro-physiological and questionnaire-based	12

Content	Competencies	Number of Hours
	techniques. (C3) c) Make use of prescriptive formulae to derive the target gain (C3, P3) d) Demonstrate the suitability of chosen hearing aids by programming the hearing aids to ensure audibility, intelligibility, loudness comfort with no acoustic feedback (C2, P3) e) Select the right hearing aid after verifying and comparing the benefit using functional gain, insertion gain and physiological methods. (C3, P3) f) Outline the comparative procedure of hearing aid selection (C2) g) Apply the acquired knowledge to counsel a caregiver regarding care and maintenance of hearing aid (C3, P4)	
Unit 5		
Mechano-acoustic couplers (Earmolds)	a) Explain the different types and styles of ear molds (C2) b) Select the appropriate style and type of earmould based on audiological and ear canal characteristics. c) Construct earmold impressions in models and real ear. (C3, P3) d) Construct soft and hard ear molds (C3, P3) e) Illustrate the effects of ear mold acoustics and acoustic modification on frequency response of the hearing aid output (C2, P3) f) Select the appropriate acoustic modifications (vents, damper & horns) to the ear mold based on audiological and ear canal characteristics. (C2)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	3	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	3	-
Clinic	-	-
Practical	9	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**
Assessment Methods:		
Formative	**Summative**	
Unit Test	Sessional Exam I & II	
Assignments	End Semester Exam	

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional Examination 1	x	x	x			
Sessional Examination 2				x	x	x
Assignments	x				x	x
Practical / Record Book		x	x			x
End Semester Exam	x	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main reference	• Sandlin, R. E. (2000). The textbook of hearing aid amplification. Singular Thomson Learning. • Valente, M. (2002). Hearing Aids: Standards, Options, and Limitations (2nd ed.). Thieme. • Dillon, H. (2012). Hearing aids. (2nd ed.). Thieme					
Additional reference	• Maltby, M. Tate. (2002). Principles of hearing aid audiology (2nd ed.). Whurr publications. • Metz, M. J. (2014). Sandlin's Textbook of Hearing Aid Amplification: Technical and Clinical Considerations. Plural Publishing					

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Speech Language Pathology**
Course Code	**ASL2131**
Academic Year	Second year
Semester	III
Number of Credits	3
Course Prerequisite	Understanding of development of speech and language
Course Synopsis	This module will make the student learn the diagnostics and report writing for speech and language disorders

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To perform procedures to obtain a speech language sample for speech & language assessment from children of different age groups such as preschoolers, kindergarten, primary school and older age groups. (P4)
CO2	To complete methods to examine the structures of the oral cavity/organs of speech. (P4)
CO3	To perform the tools to assess language abilities in children (with hearing impairment, specific language impairment & mixed receptive language disorder). (P4)
CO4	To analyze the development of speech sounds of the language. (C3)
CO5	To perform diagnostic and therapeutic report writing. (P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3		x		x				
CO4	x	x						
CO5		x			x			

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Know (Lectures)	1. To analyse procedures to obtain a speech language sample for speech & language assessment from children of different age-groups such as preschoolers, kindergarten, primary school and older age groups. (C4) 2. To apply methods to examine the structures of the oral cavity/organs of speech. (C3) 3. To choose the tools to assess language abilities in children (with hearing impairment, specific language impairment & mixed receptive language disorder). (C3) 4. To apply development of speech sounds in vernacular and linguistic nuances of the language. (C3)	6

Content	Competencies	Number of Hours
Know how (Lectures/ Demonstrations)	1. To analyse evaluate speech and language components using informal assessment methods. (C4) 2. To develop understanding of administering at least two standard tests for childhood language disorders (LPT/REELS, 3-DLAT, ALD, SECS, CDDC). (C3) 3. To develop understanding of administering at least two standard tests of articulation/speech sounds (Indian Articulation, HAPP). (C3) 4. To apply assess speech intelligibility (AYJNIHH speech intelligibility scale). (C3) 5. To identify diagnostic and therapeutic reports. (C3)	6
Show (Clinical Practicum)	1. To complete analysis of language components – Form, content & use – minimum of 2 samples. (P4) 2. To demonstrate analysis of speech sounds at different linguistic levels including phonological processes – minimum of 2 samples. (P5) 3. To demonstrate transcription of speech language samples – minimum of 2 samples. (P5) 4. To complete analyze differences in dialects of the local language. (P4)	10
DO (Clinical Practicum)	1. To perform Case history – minimum of 5 individuals with speech & language disorders. (P4) 2. To perform Oral peripheral examination – minimum of 5 individuals. (P4) 3. To perform Voice recording and acoustic analysis of voice using MDVP and Vaghmi (5 normals- male and female voice). (P4) 4. To perform Language evaluation/diagnostic report – minimum of 5. (P4) 5. To perform speech sound evaluation/assessment report – minimum of 5. (P4) 6. To complete language therapy and articulation therapy reports (pre-therapy, lesson plan, progress report) - minimum of 1. (P4)	10

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	103	-
Practical	32	96
Revision	-	-

Assessment	-		-		
Total	**135**		**96**		
Assessment Methods:					
Formative	**Summative**				
Unit Test	Clinical exam (Internal)				
Assignments					
Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x			
Sessional Examination 2			x		
Quiz / Viva			x	x	
Assignments					x
Practical / Record Book	x	x	x	x	x
Any others: WPBA					
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main reference	• Hegde, M. N., & Pomaville, F. (2013). *Assessment of communication disorders in children: resources and protocols*. (2nd Ed.), San Diego, CA: Plural Publishing.				
Additional reference	• Shipley, K. G., & McAfee, J. G. (2016). *Assessment in speech-language pathology: A resource manual*. (5th ed.). Australia; Clifton Park NY: Delmar Learning.				

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Audiology**
Course Code	**ASL2132**
Academic Year	Second year
Semester	III
Number of Credits	4
Course Prerequisite	Basic theoretical understanding of audiological skills and observation of cases in clinical setup
Course Synopsis	The module will provide the student with the fundamental clinical knowledge of audiology

Course Outcomes (COs): At the end of the course student shall be able to:

CO1	To demonstrate case history taking in detail and interpret from the same (P5, A3)
CO2	To perform pure tone audiometry and speech audiometry with implementing effective masking (P4, A5)
CO3	To demonstrate use of tuning fork test (P5, A3)
CO4	To describe understanding methods of calibration (C1, A1)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2		x				x		
CO3	x	x						
CO4	x	x						

Course Content and Outcomes:

Content	Competencies	Number of Hours
Know (Concept)	To describe the methods to calibrate audiometer (C1, A1) To list the materials commonly employed in speech audiometry (C1) To describe Calculation degree, type and percentage of hearing loss on 5 sample conditions (C1, A1) To list the different types of hearing loss and its common causes (C1)	4
Know- how (Ability to apply)	To demonstrate the ability to take detailed case history taking from clients or parents/guardians (P5, A3) To demonstrate the ability to use commonly used tuning fork tests (P5, A3) To demonstrate the ability to administer pure tone audiometry including appropriate masking techniques on adults using at least techniques (P5, A3) To demonstrate the ability to administer tests to find out speech reception threshold, speech identification scores, most comfortable and uncomfortable levels on adults. (P5, A3)	4

Content	Competencies	Number of Hours
Show (Demonstrate in a clinical diary/log book based on clinical reports/recordings, etc.	To demonstrate plotting of audiograms with different degree and type with appropriate symbols – 2 audiograms per degree and type (P5, A3) To demonstrate detailed case history and its analysis (P5, A3) To demonstrate calculation degree, type and percentage of hearing loss on 5 sample conditions (P5, A3)	3
Do (Perform on patients/ client contacts)	To perform detailed case history taking on 5 adults and 3 children with hearing disorders (P4, A5) To perform tuning fork tests on 2 individuals with conductive and 2 individuals with sensori-neural hearing loss (P4, A5) To perform pure tone audiometry with appropriate masking on 5 individuals with conductive, 5 individuals SN hearing loss and 3 individuals with unilateral/asymmetric hearing loss (P4, A5)	19

Learning Strategies, Contact Hours and Student Learning Time (SLT)					
Learning Strategies		**Contact Hours**		**Student Learning Time (SLT)**	
Clinic		150		-	
Practical		30		90	
Total		**180**		**90**	
Assessment Methods:					
Formative		**Summative**			
Practical record book		Clinical viva (Internal)			
Viva (Clinical)					
Clinical assessment (OSCE, OSPE, WBPA)					
Mapping of Assessment with COs:					
Nature of Assessment		**CO1**	**CO2**	**CO3**	**CO4**
Practical record book		x	x	x	x
Viva (Clinical)		x	x	x	x
Clinical assessment (OSCE, OSPE, WBPA)		x	x	x	x
Feedback Process	Mid-Semester Feedback				
	End-Semester Feedback				
Main reference	1. Gelfand, S. A. (2009). Hearing: An Introduction to Psychological and Physiological Acoustics (5 edition.). London: CRC Press. 2. Katz, J. (2014). Handbook of Clinical Audiology (7th International edition edition.).				
Additional reference	1. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology. Boston: Pearson.				

SEMESTER - IV

COURSE CODE	:	COURSE TITLE
ASL2221	:	Motor Speech Disorders in Children
ASL2222	:	Language Disorders in Children
ASL2223	:	Diagnostic Audiology: Physiological Tests
ASL2224	:	Implantable Hearing Devices
ASL2231	:	Clinical in Speech Language Pathology
ASL2232	:	Clinical In Audiology

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Motor Speech Disorders in Children**
Course Code	**ASL2221**
Academic Year	Second year
Semester	IV
Number of Credits	4
Course Prerequisite	Students should have basic knowledge of normal aspects of speech in children
Course Synopsis	This module will impart a comprehensive knowledge about the neuro-developmental processes in speech production, various motor speech disorders in children with emphasis on its assessment and management.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To outline the neuro-developmental processes in speech production and motor speech disorders (C2, P1)
CO2	To describe the characteristics of motor speech disorders in children such as cerebral palsy and childhood apraxia of speech (C2, P2)
CO3	To apply knowledge to assess the speech and non-speech aspects associated with the above conditions (C3, P5)
CO4	To plan and apply therapy strategies for children with motor speech disorders (C3, P5)
CO5	To employ and follow the assessment procedure and therapy strategies for feeding and swallowing deficits associated with the above conditions (C3, P3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3		x	x					
CO4		x				x		
CO5		x				x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1: Neuro-developmental processes in speech production and motor speech disorders	a) Outline the neuro-anatomy structures related to speech production (cerebral cortex, sub-cortical structures, brainstem, cerebellum, spinal cord & cranial nerves, pyramidal and extra-pyramidal systems) (C2) b) Explain the sensory-motor integration (spatial temporal planning, motor planning and feedback) (C2) c) Recall the anatomic development of speech production systems (C1)	12

Content	Competencies	Number of Hours
	d) Recall the development of neural pathways of speech motor control (brain maturation, reflexes, sensory and motor) (C1) e) Explain Dysarthria in children - cerebral palsy - disorders of tone (spastic, flaccid): definition, etiology, characteristics and associated problems (C2) f) Explain Dysarthria in children - cerebral palsy - disorders of movement (hyperkinetic, hypokinetic) and disorder of balance (ataxia): definition, etiology, characteristics and associated problems (C2) g) Explain Dysarthria in children - lower motor neuron and other syndromes with motor speech disorders (C2) h) Explain Childhood apraxia of speech and nonverbal oral apraxia: definition, characteristics and classification (C2) **Practical:** a) Identify the motor control centers in the brain (cerebral cortex, cerebellum, basal ganglia, thalamus, corticobulbar tract, brainstem) With the help of models, charts and software (P1)	
Unit 2: Assessment of motor speech disorders in children	a) To carry out the case history and developmental neurological evaluation – primitive postural and oro-pharyngeal reflexes, cranial nerve examination (C3) b) Demonstrate assessment of oral sensory and motor capacity – Oral peripheral mechanism examination, neuro- muscular status (C3, P2) c) Demonstrate assessment of speech sub-systems – quantitative and qualitative (C3, P2) d) Demonstrate assessment of speech intelligibility and comprehensibility (C3, P2) e) To outline assessment of associated problem (C2) f) To carry out speech assessment with specific reference to childhood apraxia of speech – Phonetic and phonemic inventory, phonotactics and syllable sequencing, variability of errors, speech intelligibility, fluency and prosody (C3, P2) g) Explain the Test materials – checklist for childhood apraxia of speech, screening test for developmental apraxia of speech (C2) h) Summarize the protocols for non-verbal and verbal praxis specific to Indian languages (C2) i) Compare and contrast between dysarthria and other developmental disorders (C2) j) Compare and contrast between childhood apraxia of speech and other developmental disorders (C2) **Practical:** a) Demonstrate oro-motor examination in five children and adults and compare (P2) b) Identify oro-motor reflexes (rooting, suckling, & phase bite) in 5 infants (P1)	12

Content	Competencies	Number of Hours
	c) Detects normal posture and breathing patterns required for varied speech tasks. Alter the postures and breathing patterns and notice changes in speech patterns (P1) d) Measure DDK rate in five typically developing children (P2) e) Measure intelligibility of speech in five typically developing children. Discuss factors that influenced speech intelligibility and their ratings (P2) f) Recognize (a) physical status, (b) oral sensory motor abilities and vegetative skills, (c) respiration, (d) phonation, (e) resonation, (f) articulation and (g) language abilities in five typically developing children. Compare these with observations made from children with motor speech disorders. (P2)	
Unit 3: Management of childhood dysarthria	a) Explain team approach in rehabilitation of motor speech disorders in children (C2) b) Explain Neuro-developmental therapy (C2) c) Demonstrate and carry out non speech oral-motor exercises: its application for children with dysarthria (C3, P5) d) Demonstrate and carry out management of drooling (C3, P5) e) Demonstrate and carry out behavioral management of respiratory, phonatory, resonatory and articulatory subsystems (C3, P5) f) Explain the Prosthetic appliances that can be used in treatment of childhood dysarthria (C2) g) Apply and follow AAC in management of motor speech disorders- role of devices, AAC team, candidacy and pre-requisites, symbol selection, techniques, assessment for AAC, effective use of AAC (C3, P3) h) Interpret case studies in planning intervention for children with dysarthria (C2) **Practical:** a) Demonstrate oro-motor exercises – isotonic and isometric. Discuss strategies to modify exercises for children (P5) b) Identify from video the AAC system such as low technology vs high technology systems and different symbol system, that is, Bliss symbols, IICP symbols and different signing systems – Makaton (P1)	12
Unit 4: Management of childhood apraxia of speech	a) Explain the Principles of motor learning (C2) b) Explain the Integral stimulation – dynamic temporal cueing (C2) c) Demonstrate and carry out the Multisensory and tactile cueing techniques (moto kinesthetic speech training, sensory motor approach, PROMPTS, Touch cue method & speech facilitation) (C3, P5)	12

Content	Competencies	Number of Hours
	d) Summarise and follow the Gestural cueing techniques (signed target phoneme therapy, adapted cueing techniques, cued speech, visual phonics,& Jordon's gestures) (C2, P3) e) Employ and follow the Miscellaneous techniques (melodic intonation therapy, multiple phonemic approach, & instrumental feedback) (C3, P3) f) Summarize and follow the Cognitive/conceptual/ linguistic /phonological remedial approaches – phonotactics (C2, P3) g) Explain and follow the other approaches: Vowel and diphthong remediation techniques (Northampton (Yale) vowel chart and Alcorn symbols), Nancy Kauffman's speech praxis treatment kit (C2, P3) h) Apply and follow AAC in childhood apraxia of speech (C3, P3) i) Summarize the evidence-based practice in intervention for childhood apraxia of speech (C2) j) Interpret case studies: planning intervention for childhood apraxia of speech (C2)	
Unit 5: Feeding and swallowing disorders in children	a) Recall information related to embryology- periods and structures of development (C1) b) Identify the anatomical structures of swallowing- upper aero digestive system, anatomic difference between adults and children (C1) c) Explain the physiology of swallowing- swallow phases, neural control of swallowing, reflexes related to swallowing, suckling and sucking, airway and swallowing (C2) d) Explain the terms involved in dysphagia and development of feeding skills (C2) e) Recognize the causes of dysphagia in children (C1) f) Recognize the signs and symptoms of dysphagia in children (C1) g) Employ and follow the assessment procedure – inferences from neural developmental assessment, cranial nerve examination, assessment scales, nutritive and non-nutritive assessment, instrumental assessment (VFS, cervical auscultation), gastrointestinal evaluation (C3, P3) h) Employ and follow the management strategies: positioning, oral- motor treatment, team approach, non-oral feeding, transitional feeding, modifications in feeding (C3, P3) i) Summarize the role of speech-language pathologist in neonatal intensive care with reference to feeding and swallowing? (C2) **Practical:** a) Observe feeding and swallowing skills develop in different age groups of children: 2 newborns; 2 infants, 2 toddlers, and 2 older children. (P1)	12

Content	Competencies	Number of Hours
	b) Identify the differences in feeding methods, food consistencies, texture, quantity, feeding habits, feeding appliances used by these children (P1)	

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	03	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	03	-
Clinic	-	-
Practical	9	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Unit Test	Sessional Exam I & II
Viva – Practical	End Semester Exam
Assignments	
Practical book submission	

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x	x		
Sessional Examination 2				x	x
Viva			x	x	x
Assignments			x	x	x
Practical Book	x		x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	1. Caruso, F. J. & Strand, E. A. (1999). Clinical Management of Motor Speech Disorders in Children. New York: Thieme. 2. Love, R.J. (2000) (2nd Ed). Childhood Motor Speech Disorders. Allyn & Bacon. 3. Love, R.J. & Webb, W.G. (1993). (2nd ed.) Neurology for the Speech-Language Pathologist. Reed Publishing (USA) 4. Velleman, S. L (2003). Resource guide for Childhood Apraxia of Speech. Delmar/Thomson Learning.

	5. Murry, T., Carrau, R. L., & Chan, K. (2012).Clinical Management of Swallowing disorders. Plural Publishing. 6. Glennen, S., & DeCoste, D. (1997). A handbook of alternative and augmentative communication. *San Diego, CA: Singular*.
Additional reference	1. Arvedson, J.C., and Brodsky, L. (2002) (2nd Ed.). Pediatric swallowing and feeding. San Diego, Singular publishing. 2. Hardy, J. (1983). Cerebral Palsy. Remediation of Communication Disorder Series by F.N. Martin. Englewood Cliffs, Prentice Hall Inc. 3. Rosenthal. S., Shipp and Lotze (1995). Dysphagia and the child with developmental disabilities. Singular Publishing Group.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Language Disorders in Children**
Course Code	**ASL2222**
Academic Year	Second year
Semester	IV
Number of Credits	4
Course Prerequisite	Student should have basic understanding of linguistics and language development
Course Synopsis	This module highlights aspects on acquisition of language and its development, assessment and intervention of language disorders in children, documentation and counselling.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To describe the process of acquisition of language and factors that influence its development in children (C2, P5)
CO2	To perform assessment of language delay and deviance in children with language disorders (C4, P5)
CO3	To apply and carry out appropriate strategies for intervention in children with language disorders (C3, P5, A3)
CO4	To carry out counselling and provide guidance to parents/caregivers of children with language disorders (C3, P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x				x		
CO2		x				x		
CO3		x				x		
CO4			x		x			

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Bases of language acquisition, development and disorders	a) To apply the theories of language acquisition 1: Biological, Psycholinguistic/syntactic theory (C3) b) To apply the theories of language acquisition 2: Cognitive, social interaction/pragmatic, information processing, behavioral (C3) c) To identify the pre-cursors for normal development of language (C3) d) To analyze development of components of language from birth to two years (pre-linguistic/pre-symbolic to symbolic) (C4) e) To analyze development of components of language during preschool period (C4) f) To analyze development of components of	12

Content	Competencies	Number of Hours
	language during early school age and beyond (C4) g) To identify the basic concepts and terminologies of language development in bilingual children – simultaneous versus sequential language acquisition, additive and subtractive bilingualism, process of second language acquisition, variables influencing second language acquisition (C3) ***Practical 1***: To Make a list of loan words in two familiar languages based on interaction with 10 typically developing children in the age range of 2-4, 4-6, 6-8 and 8-10 years. Discuss the influence of bi- or multilingualism on vocabulary. (P5) h) To develop knowledge on Development of language in culturally diverse environments and exceptional circumstances – neglect and abuse, twins, low-socio economic background (C3) i) To apply knowledge regarding Overview of language disorders – definition and classification based on ICD, DSM (C3) j) To apply knowledge of ICF in language disorders (C3)	
Unit 2		
Language disorders – definition, classification, causes, and characteristics	a) To develop understanding of Intellectual disability: definition, classification, causes and characteristics (C3) b) To develop understanding of Autism spectrum disorders: definition, classification, causes and characteristics (C3) c) To develop understanding of Attention deficit hyperactive disorder: definition, classification, causes and characteristics (C3) d) To develop understanding of Language impairment: mixed receptive and expressive language disorder, specific language impairment: definition, classification, causes and characteristics (C3) e) To develop understanding of Learning disability: definition, classification, causes and characteristics (C3) f) To develop understanding of Acquired childhood aphasia: definition, classification, causes and characteristics (C3) g) To develop understanding of Sensory impairments and language disorders: types, causes and characteristics (C3) h) To develop understanding of Syndromic conditions leading to language difficulties: William syndrome, fragile x syndrome, Downs syndrome (C3) i) To develop understanding of Other developmental disabilities: deaf-blind, cerebral palsy and multiple disabilities (C3)	12

Content	Competencies	Number of Hours
Unit 3		
Assessment of language in children	a) To examine Preliminary components of assessment: case history, screening, evaluation of environmental, linguistic & cultural variables. (C4) b) To identify the Methods to assess children with language disorder: Formal versus informal assessment; types of assessment materials: assessment scales, observational checklists, developmental scales; standardization, reliability, validity, sensitivity and specificity of test materials (C3) c) To develop understanding of Informal assessment – pre-linguistic behavior, play, mother-child interaction (C3) ***Practical 2*****:** To Record mother-child interaction of one typically developing child in the age range of 0-1, 1-2, 2-4, 4-6 and 6-8 years of age. Compare linguistically the out puts from the mother and the child across the age groups. Make inferences on socio cultural influences in these interactions. (P5) d) To develop understanding of Language sampling: planning and collecting representative sample; strategies to collecting language sample, audio-video recording, transcription (C3) e) To apply knowledge of Analysis of language sample: Specific to various components of language such as phonology, morphology, syntax, semantics and pragmatics (C3) ***Practical 3*****:** To Record a conversation and narration sample from 3 children who are in preschool kindergarten, and primary school. Perform a language transcription and analyze for form, content and use. (P5) f) To develop understanding of Test materials for assessing language skills: Assessment of Language Development (ALD), 3D-Language Assessment Test, Linguistic Profile Test. Com-DEALL checklist, other Indian and global tests – (C3) ***Practical 4*****:** To Administer 3D LAT, ALD, LPT, ComDEALL checklist on 2 typically developing children. (P4) g) To develop understanding of Test materials used for children with developmental delay, intellectual disability: Madras Developmental Program Scale, Bayley's Scale for infant and toddler development (C3) h) To develop understanding of Test materials used for children with autism spectrum disorder: Modified-Checklist for Assessment of Autism in Toddlers, Childhood Autism Rating Scale, Indian	12

Content	Competencies	Number of Hours
	Scale for Assessment of Autism (C3) i) To develop understanding of Other test materials used for children with ADHD, ACA, LD (NIMH battery for assessment of Learning Disability) (C3) j) To identify Documenting assessment results: diagnostic report, summary report and referral report specific to disorder (C3) ***Practical 5*:** To Draft a diagnostic report and referral letter for a child with language disorder.(P5) k) To apply Differential diagnosis of language disorders in children (C3)	
Unit 4		
Management of language disorders in children – I	a) To apply General principles and strategies of intervention in children with language impairment – purpose of intervention, basic approaches to language intervention (developmental or normative approach, functional approach). (C3) ***Practical 6*:** To Demonstrate general language stimulation techniques and discuss the clinical application.(P5) b) To develop understanding of Types of service delivery models – Individuals versus group; direct versus tele-rehabilitation; structure of therapy session, setting the environment, furniture, seating arrangements (C3) c) To examine concept of Reinforcement in language therapy, types and schedules of reinforcement (C4) d) To examine the Choice of language for intervention, incorporating principles of multiculturalism into treatment activities (C4) e) To examine Choosing and framing goals and objectives: SMART Objectives (C4) f) To apply knowledge on Specific treatment techniques - Incidental teaching, self-talk, parallel talk, expansion, extension, recasting, joint routines, joint book reading - whole language, modifying linguistic input, communicative temptations - drill, modelling - Focused stimulation, vertical structuring, milieu teaching, and model (C3) ***Practical 7*:** To Demonstrate specific language stimulation techniques with appropriate materials and discuss its clinical applications. (P5) g) To develop understanding of Caregivers and family in intervention: Structured and informal approaches (C3)	12

Content	Competencies	Number of Hours
Unit 5		
Management of language disorders in children – II	a) To identify Team approach to intervention (C3) b) To examine Augmentative and alternative communication – types (aided and unaided) and application in child language disorders (C4) c) To apply Specific approaches to management of children with Autism: PECS, Lovass, TEACCH, Com-DEALL, ABA, Facilitated Communication (C3) d) To develop understanding of Approaches to management of children with LD (C3) e) To develop understanding of Strategies to facilitate language skills in children with disorders such as intellectual disability: Redundancy, chunking, chaining (C3) f) To develop Use of technology in language intervention (C3) g) To develop understanding of Home plan and counselling for children with language disorders (C3) h) To identify Documentation specific to the disorder: pre-therapy; lesson plan; SOAP notes (C3) ***Practical 8*:** To Draft a lesson plan for a child with language disorder (P5) ***Practical 9:*** To Draft Subjective Objective Assessment Plan (SOAP) for a pre-recorded sample of a 45-minute session of intervention for a child with language disorder (P4) i) To identify Documentation specific to the disorder: summary report, referral report (C3) j) To examine Decision making in therapy: transition to next objective, termination of therapy (C4) ***Practical 10*:** To Draft a discharge summary report for a child with language disorder (P5)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	5	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	10	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:				
Formative	**Summative**			
Unit Test	Sessional Exam I & II			
Assignments	End Semester Exam			
Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Sessional Examination 1	x	x		
Sessional Examination 2			x	x
Assignments	x	x		
Practical / Record Book	x	x	x	
End Semester Exam	x	x	x	x
Feedback Process:	Mid-Semester Feedback			
	End-Semester Feedback			
Main reference	1. Paul, R., & Norbury, C. F. (2012). Language Disorders from Infancy Through Adolescence: Listening, Speaking, Reading, Writing and Communicating (4th ed.). St. Louis, Missouri: Elsevier Inc. 2. Hedge, M. N. & Pomaville, F. (2013). Assessment of Communication Disorders in Children – Resources and Protocols (2nd Ed.). San Diego, CA: Plural Publishing.			
Additional reference	1. Roseberry-McKibbin, C. (2007). Language disorders in Children: A multicultural and case perspective. Boston: Pearson Education, Inc. 2. Dwight, D. M. (2006). Here's how to do therapy: Hands-on core skills in speech language pathology. San Diego, CA: Plural Publishing. 3. Hegde, M. N. (2005). Treatment protocols for language disorders in children – Vol. 1 & 2. San Diego: Plural Publishing. 4. Owens, R. E. (2008). Language development: An introduction (7th ed.). Boston: Pearson. 5. Reed, V. A. (2004). An introduction to children with language disorders (3rd Ed.). New York: Allyn & Bacon 6. Rout, N, and Kamraj, P. (2014). Developing communication – An Activity Book, A publication by NIEPMED, Chennai. Freely downloadable from http://niepmd.tn.nic.in/publication.php.ISBN 978-81-928032-41.			

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Diagnostic Audiology: Physiological Tests**
Course Code	**ASL2223**
Academic Year	Second year
Semester	IV
Number of Credits	4
Course Prerequisite	The student should have basic knowledge about auditory anatomy and behavioral tests
Course Synopsis	The module will provide information regarding physiological and electrophysiological tests used for assessing various auditory disorders, test battery approach and differential diagnosis.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Explain the instrumentation and basic principles of physiological and electrophysiological tests (C2, P2)
CO2	Explain the factors affecting the test results of physiological and electrophysiological tests (C2)
CO3	Interpret the test results of physiological and electrophysiological tests (C4, P2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3		x						

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Immittance Evaluation	a) Explain the clinical significance of physiological tests in audiology (C2) b) Explain the principles of immittance evaluation: Concept of impedance and admittance, their components, (C2) c) Explain the tympanometric procedure: definition, measurement procedure (C3, P2) Interpret the response parameters, their measurement and normative, classification of tympanogram, clinical significance of tympanometry (C4) d) Execute and interpret Eustachian tube functioning tests of tympanometry: basics of pressure equalization function of ET, Valsalva, Toynbee, William"s pressure swallow, inflation-deflation test. (C4, P2) e) Understand the concept of multicomponent and multi-frequency tympanometry (C1)	12

Content	Competencies	Number of Hours
	f) Understand wide band reflectance and wide band tympanometry (C1) g) Explain the reflexometry: acoustic reflex pathway (C2) h) Do and interpret measurement procedure, clinical applications of acoustic reflexes, special tests (C4, P2)	
Unit 2		
Auditory Brainstem Response	a) Understand the Introduction and classification of AEPs (C1) b) Explain the Instrumentation (C2) c) Explain the Principles of AEP recording techniques: d) Auditory brainstem response generators (C2) e) Apply different Protocol and procedure of recording auditory brainstem response (C4, P2) f) explain the factors affecting auditory brainstem responses (C2) g) Explain clinical applications of ABR (C3) h) Differentiate ABR in the paediatric and adult population (C4) i) Explain the role of ABR in infant hearing screening (C4)	12
Unit 3		
Overview of other ERPs	a) Describe ECochG (C2, P2) b) Describe Auditory Middle Latency Responses (AMLR) and their clinical applications (C2, P2) c) Explain auditory Long Latency Responses (Obligatory responses) and their clinical applications (C3, P2) d) Describe Other long latency potentials such as P300, MMN, P600, N400, T-complex, CNV) and their clinical applications (C2) e) Describe ASSR: Instrumentation, recording and clinical applications (C2, P2) f) Describe Brainstem responses to speech and other complex signals(C2)	12
Unit 4		
Oto-acoustic Emissions	Explain otoacoustic emissions, its origin and classification(C2) Explain the Instrumentation used for recording different OAEs(C3) Use different Procedure of OAE measurement: SOAE, TEOAEs, and DPOAEs (C4, P2) Interpret results of SOAE, TEOAEs, and DPOAEs (C4, P2) Describe the clinical applications of OAEs: SOAE, TEOAEs, and DPOAEs (C2) Explain contralateral suppression of OAEs and its clinical Implications (C2)	12
Unit 5		
Physiological tests	a) Describe the Electronystagmography: procedure,	12

Content	Competencies	Number of Hours
for assessment of vestibular functions	interpretation, clinical applications (C2, P2) b) Explain Videonystagmography, videoocculograph (C2) c) Explain Vestibular Evoked Myogenic Potentials (C2) d) Understand rotatory chair test, video Head Impulse Test, (C1) e) Understand dynamic Posturography (C1)	

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	5	-
Clinic	-	-
Practical	10	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Unit Test	Sessional Exam I & II
Assignments	End Semester Exam

Mapping of Assessment with COs:			
Nature of Assessment	**CO1**	**CO2**	**CO3**
Sessional Examination 1	x	x	
Sessional Examination 2		x	x
Quiz / Viva	x	x	x
Assignments	x	x	x
Practical / Record Book		x	x
End Semester Exam	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	1. Hall, J. W., & Mueller, H. G. (1996). Audiologists' Desk Reference: Diagnostic audiology principles, procedures, and protocols. Cengage Learning. 2. Hood, L. J. (1998). Clinical Applications of the Auditory Brainstem Response. Singular Publishing Group. 3. Hunter, L., & Shahnaz, N. (2013). Acoustic Immittance Measures: Basic and Advanced Practice (1 edition). San Diego, CA: Plural Publishing.

	4. Jacobson, G. P., & Shepard, N. T. (2007). Balance Function Assessment and Management (1 edition). San Diego, CA: Plural Publishing Inc.. 5. Katz, J., Medwetsky, L., Burkard, R. F., & Hood, L. J. (Eds.). (2007). Handbook of Clinical Audiology (6th revised North American ed edition). Philadelphia: Lippincott Williams and Wilkins 6. Robinette, M. S., & Glattke, T. J. (Eds.). (2007). Otoacoustic Emissions: Clinical Applications (3rd edition). New York: Thieme.
Additional reference	1. Silman S. and Silverman C.A. (1991). Auditory Diagnosis Principles and Application. New York: Academic Press, Inc. 2. Feldman, A.S., &Willber, L.A. (Eds), (1976), Acoustic Impedance, Immittance: Measurement of Middle Ear Function, Baltimore: Williams & Wilkins.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Implantable Hearing Devices**
Course Code	**ASL2224**
Academic Year	Second year
Semester	IV
Number of Credits	4
Course Prerequisite	Basics in anatomy and physiology of the auditory system and be knowledgeable on the etiology, degree, types & pattern of hearing loss
Course Synopsis	The course provides information regarding types of implantable hearing devices (IHDs), its components, and candidacy selection. It also gives theoretical understanding in terms of coding strategies, surgical aspects, device programming and monitoring the benefit of IHDs. The course also deals with pre- and post- implant counselling and rehabilitation.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Understand the types, components and working of implantable hearing aids (C2)
CO2	Select the appropriate device depending on the audiological and non-audiological findings (C3, P3, A1)
CO3	Demonstrate post-implant audiological programming & management (C3, P4, A2)
CO4	Utilize objective and behavioural tests to verify benefit derived from implantation (C3, P3, A1)
CO5	Explain to the caregivers during different stages of implantation (C2, P3, A1)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3	x	x						
CO4	x	x						
CO5	x				x			

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Basics of Implantable hearing devices	a) Define Implantable aids (C1) b) List the need for implantable devices (C1) c) Compare & contrast hearing aids Vs implantable aids (C2) d) Recall the history of implantable hearing devices (C1) e) Outline candidacy for implantable hearing devices (C2)	12

Content	Competencies	Number of Hours
	f) Outline the team involved in implantable hearing devices (C2)	
Unit 2		
Bone anchored hearing devices (BAHA) and middle ear implants (MEI)	a) Define BAHA & MEI (C1) b) Classify BAHA & MEI (C2) c) Name the components & label its part (C1) d) Outline the functions of BAHA & MEI (C2) e) Select an appropriate audiological test battery in evaluation for candidacy (C3, P3, A1) f) List the contraindications for BAHA & MEI (C1) g) Name few surgical approaches in BAHA, MEI (C1) h) Define informed consent (C1). i) Explain the need for informed consent at appropriate stages of implantation (C2) j) Outline the risks and complications of BAHA & MEI (C2) k) Outline the outcome measures to demonstrate the benefit with device (C2)	12
Unit 3		
Basics of Cochlear Implant (CI) and auditory brain stem implants (ABI)	a) Define CI & ABI (C1) b) Classify CI (C2) c) List and label the components of CI & ABI (C1) d) Outline the features & functions of CI & ABI (C2) e) Choose an appropriate audiological test battery in evaluation for candidacy (C3, P3, A1) d) List the contraindications for CI & ABI (C1) e) Name surgical approaches for CI & ABI (C1) f) Outline the risks and complications of CI & ABI (C2) g) Define Bilateral, bimodal and hybrid cochlear implants (C1) h) Compare and contrast CI versus bilateral, bimodal & hybrid devices (C2) i) Outline the candidacy criteria for bilateral, bimodal & hybrid devices (C2) j) List the factors related to selection of the device (C1) k) Name few manufacturing companies for CI & ABI (C1) l) Summarize the models, schemes & funding sources for implantable devices (C2, P1)	12
Unit 4		
Intraoperative Assessment & Post Implant programming – CI and ABI	a) Classify the Signal coding strategies (C2) b) Summarize the various signal coding strategies (C2) c) Explain the need for Intraoperative monitoring by audiologists (C2) d) Demonstrate understanding of various objective measures: ESRT, ECAP, prom stim, EABR,	12

Content	Competencies	Number of Hours
	aided cortical potentials (C2, P3) e) Define the terminologies related to Mapping (C1) f) List the various device required for programming (C1) g) Explain the schedule, pre-requisites, and parameters of mapping (C2) h) Summarize the steps for programming of device (C2; P3; A2) i) Demonstrate the role of objective and subjective measures in mapping, (C2, P3; A1) j) Demonstrate the use of audiological tests to assess Post mapping benefit (C2, P3; A1) k) Illustrate programming of bimodal, bilateral & hybrid devices (C2, P3) l) Summarize the assessment to demonstrate the benefit with device (C2)	
Unit 5		
IHD – Counselling, troubleshooting and Rehabilitation	a) List the areas to highlight during the pre-implant counselling (C1) b) Explain Post implant counselling on care and maintenance of device (C2, P3) c) Show understanding of problems related to device (C2; P3) d) Demonstrate mechanism to troubleshooting of device (C2, P3) e) Define Auditory verbal therapy (AVT) (C1) f) Compare and Contrast AVT versus auditory training (C2) g) List the benefits of AVT (C1) h) Plan post implant rehabilitation (C3, P4, A2) i) Explain various factors affecting outcome of implantable devices in adults and children (C2)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	7	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	8	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:					
Formative	**Summative**				
Unit Test	Sessional Exam I				
Quiz	Sessional Exam II				
Assignments	End Semester Exam				
Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x	x		
Sessional Examination 2				x	x
Quiz / Viva		x			x
Assignments	x		x		x
Practical / Record Book				x	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	1. Wolfe, J., & Schafer, E. C. (2015). Programming cochlear implants- Second edition. Plural publishing. 2. Hughes, M. L. (2013). Objective measures in cochlear implants. Plural publishing. 3. Møller A.R. (2006). Cochlear and Brainstem Implants (Vol. 64). 4. Mankekar, G. (2014). Implantable Hearing Devices other than Cochlear Implants. Springer India. 5. Cooper, H., & Craddock, L. (2006). Cochlear Implants: A Practical Guide. Wiley.
Additional reference	1. Eisenberg, L. S. (2009). Clinical Management of Children with Cochlear Implants. Plural Publishing. 2. Gifford, R. H. (2013). Cochlear Implant Patient Assessment: Evaluation of Candidacy, Performance, and Outcomes. Plural Publishing. 3. Hagr, A. (2007). BAHA: Bone-Anchored Hearing Aid. International Journal of Health Sciences, 1(2), 265–276. 4. Kim C. S., Chang S. O., & Lim D. (Eds.). (1999). Updates in Cochlear Implantation: The 2nd Congress of Asia Pacific Symposium on Cochlear Implant and Related Sciences, Seoul, April 1999 (Vol. 57). Seoul: KARGER. 5. Kompis, M., & Caversaccio, M.D. (2011). Implantable Bone Conduction Hearing Aids.Karger Medical and Scientific Publishers. 6. Clark, G., Cowan, R. S. C., & Dowell, R. C. (1997). Cochlear Implantation for Infants and Children: Advances. Singular Publishing Group. 7. Dutt, S. N. (2002). The Birmingham Bone Anchored Hearing Aid Programme: Some Audiological and Quality of Life Outcomes. Den Haag: Print Partners Ipskamp. 8. Niparko, J. K. (2009). Cochlear Implants: Principles & Practices. Lippincott Williams & Wilkins.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Speech-Language Pathology**
Course Code	**ASL2231**
Academic Year	Second year
Semester	IV
Number of Credits	4
Course Prerequisite	The student should have basic knowledge of types and aspects of voice disorders and childhood motor speech disorders
Course Synopsis	The module will provide the student with the clinical knowledge of speech-language pathology assessment and/or management- in individuals with voice disorder, children with motor speech disorders and language disorders.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To demonstrate and analyse voice aspects in individuals with voice disorders (C2)
CO2	To demonstrate and analyse the speech of children with motor speech disorders (C3, P4, A4)
CO3	To demonstrate report writing for children with various speech-language disorder (C4, P5)
CO4	To demonstrate and provide language therapy for children with various language disorder (C3, P5, A5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3		x		x				
CO4		x		x				

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Know (concepts)	To explain speech & language stimulation techniques. (C2)	2
	To explain different samples /procedures required to analyse voice production mechanism. (acoustic/ aerodynamic methods / visual examination of larynx/ self-evaluation) (C2)	2
	To explain different samples /procedures required to analyse speech production mechanism in children with motor speech disorders. (C2)	2
Know-how	To apply at least two more (in addition to earlier semester) standard tests for childhood language	2

Content	Competencies	Number of Hours
	disorders. (C3, P4)	
	To apply at least two more (in addition to earlier semester) standard tests of articulation/ speech sounds. (C3, P4)	2
	To make goals for therapy (including AAC) based on assessment/test results for children with language and speech sound disorders (C3, P4)	2
	To record a voice sample for acoustic and perceptual analysis. (C3, P4)	2
	To assess parameters of voice and breathing for speech. (C3, P4)	1
	To make assessment protocol for children with motor speech disorders including reflex profile and swallow skills. (C3, P4)	1
	To give counselling for children with speech-language disorders. (C2, P4, A4)	1
Show	To perform acoustic analysis of voice – minimum of 2 individuals with voice disorders. (C4, P5)	1
	To perform simple aerodynamic analysis - minimum of 2 individuals with voice disorders. (C4, P5)	1
	To perform self-evaluation of voice – minimum of 2 individuals with voice disorders. (C4, P5)	1
	To perform informal assessment of swallowing – minimum of 2 children. (C4, P5)	1
	To perform Assessment of reflexes and pre linguistic skills - minimum of 2 children. (C4, P5)	2
	To perform pre –therapy assessment and lesson plan for children with language and speech sound disorders - minimum of 2 children each. (C4, P5)	2
Do	To perform taking case history - minimum of 2 individuals with voice disorders. (C4, P5)	1
	To perform taking case history - minimum of 2 children with motor speech disorders (C4, P5)	1
	To perform taking case history-Oral peripheral examination- minimum of 5 children (C4, P5)	2
	To apply speech language stimulation/therapy techniques on 5 children with language disorders (with hearing impairment, specific language impairment & mixed receptive language disorder)/speech sound disorders – minimum of 5 sessions of therapy for each child. (C3, P5, A5)	2
	To apply exit interview and counselling -minimum of 2 individuals with speech language disorders. (C3,P5, A5)	2

Learning Strategies, Contact Hours and Student Learning Time (SLT)				
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**		
Lecture	-	-		
Seminar	-	-		
Small group discussion (SGD)	-	-		
Self-directed learning (SDL)	-	-		
Problem Based Learning (PBL)	-	-		
Case Based Learning (CBL)	-	-		
Clinic	150	-		
Practical	30	90		
Revision	-	-		
Assessment	-	-		
Total	**180**	**90**		
Assessment Methods:				
Formative	**Summative**			
Practical record book	End Semester External Viva (Clinical)			
Class Test				
Internal Viva (Clinical)				
Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Practical / Record book	x	x	x	x
Class Test	x	x	x	x
Internal viva	x	x	x	x
End Semester External viva	x	x	x	x
Feedback Process:	Mid-Semester Feedback			
	End-Semester Feedback			
Main reference	1. Shipley, K. G., & McAfee, J. G. (2016). Assessment in speech-language pathology: A resource manual (5th ed.). Australia; Clifton Park, NY: Delmar Learning. 2. Hedge, M. N. & Pomaville, F. (2013). Assessment of Communication Disorders in Children – Resources and Protocols (2nd Ed.). San Diego, CA: Plural Publishing. 3. Roth, F. P., & Worthington, C. K. (2005). Treatment resource manual for speech language pathology (3rd ed.). Australia; Clifton Park, NY: Thomson Delmar Learning.			
Additional reference	1. Tomblin, J. B., Morris, H. L., & Spriestersbach, D. C. (Eds.). (1994). *Diagnosis in speech-language pathology*. Singular Publishing Group.			

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Audiology**
Course Code	**ASL2232**
Academic Year	Second year
Semester	IV
Number of Credits	3
Course Prerequisite	Basic knowledge about special tests in audiology and amplification devices for hearing impaired
Course Synopsis	This module will enable the students to select appropriate test battery and administer special tests. It also focuses on hearing aid fitting, trouble shooting and ear mould making.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Select appropriate test battery and perform special tests on patients (C3, P5)
CO2	Select different types of ear moulds and making of ear moulds - hard and soft. (C3,P5)
CO3	Perform hearing aid fitting, and carry out EAC measurements (C3, P5)
CO4	Perform counselling and trouble shooting of hearing aids (C3, P4, A2)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1		x				x		
CO2	x	x						
CO3		x				x		
CO4		x			x			

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Know:	• Outline the indications to administer special tests (C2, P3) • Identify the procedures to assess the listening needs (C3,P4) • Explain National and international standards regarding electroacoustic characteristics of hearing aids (C2,P3)	4
Know How:	• Select at least 1 test for adaptation, recruitment and functional hearing loss. (C3,P4) • Plan to counsel hearing aid user regarding the use and maintenance hearing aids (C3, P4, A2) • Make use of troubleshooting common problems with the hearing aids (C3, P4) • Select test battery for detection of central auditory processing disorders. (C3, P3) • Select different types of ear moulds depending on type of hearing aid, client, degree, type and configuration of hearing loss (C3,P5)	7

Content	Competencies	Number of Hours
Show:	• Demonstrate electroacoustic measurement as per BIS standard on at least 2 hearing aids (C3, P5) • Demonstrate preparation of 2 hard and 2 soft moulds (C3, P5) • Illustration of hearing aid selection process depending on listening needs and audiological findings on at least 5 clinical situations (case files) (C3, P5) • Selection of test battery depending on case history and basic audiological information - 3 situations (C4, P3)	8
Do:	• Experiment with Tone decay test - 2 individuals with sensori-neural hearing loss (C3, P5) • Experiment with Strenger test - 2 individuals with unilateral/asymmetrical hearing loss (C3, P5) • Experiment with Dichotic CV/digit, Gap detection test - 2 individuals with learning difficulty or problem in hearing in noise (C3, P5) • Plan hearing aid fitment for at least 5 individuals with mild to moderate and 3 individuals with mod-severe to profound (C3, P5) • Select hearing aid with real ear measurement system on 3 individuals with hearing impairment (C3,P5)	11

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	105	-
Practical	30	90
Revision	-	-
Assessment	-	-
Total	**135**	**90**

Assessment Methods:	
Formative	**Summative**
Record note book	End Semester External (Clinical Viva)
Assignments	
Internal Viva (clinical)	

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Assignments	x	x	x	x
Practical / Record Book	x	x	x	x
Internal Viva	x	x	x	x
End Semester Viva	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	• Gelfand, S. A. (2009). Essentials of Audiology. Thieme. • Katz, J., Medwetsky, L., Burkard, R. F., & Hood, L. J. (Eds.). (2007). Handbook of Clinical Audiology (6th revised North American edition). Philadelphia: Lippincott Williams and Wilkins. • Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology (12 edition). Boston: Pearson • Valente, M. (2002). Hearing Aids: Standards, Options, and Limitations. Thieme
Additional reference	• Sandlin, R. E. (Ed.). (1989). Handbook of Hearing Aid Amplification: Clinical Considerations and Fitting Practices v. 2. Boston: Singular Publishing Group. • Mueller, H. G., Ricketts, T. A., & Bentler, R. A. (2007). Modern Hearing Aids: Pre-fitting Testing and Selection Considerations: 1 (1 edition). San Diego, CA: Plural Publishing Inc.

SEMESTER - V

COURSE CODE	:	COURSE TITLE
ASL3121	:	Structural Anomalies and Speech Disorders
ASL3122	:	Fluency and its Disorders
ASL3123	:	Paediatric Audiology
ASL3124	:	Aural Rehabilitation in Children
ASL3131	:	Clinical in Speech- language Pathology
ASL3132	:	Clinical in Audiology
*** ****	:	Open Elective- II

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Structural Anomalies and Speech Disorders**
Course Code	**ASL3121**
Academic Year	Third year
Semester	V
Number of Credits	4
Course Prerequisite	Student should have basic knowledge of anatomy and physiology of speech subsystems
Course Synopsis	The course deals with the basic knowledge of structural anomalies and speech disorders, speech characteristics and techniques for the management.

Course Outcomes (COs): At the end of the course student shall be able to:

CO1	To understand the characteristics of disorders with structural anomalies including speech (C3)
CO2	To evaluate and diagnose the speech characteristics seen in these disorders (C4)
CO3	To learn about the techniques for the management of speech disorders in these conditions (C6)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2		x	x					
CO3					x	x		

Course Content and Outcomes:

Content	Competencies	Number of Hours
Unit 1		
Speech characteristics of persons with cleft lip and palate	a) Define cleft lip and palate(CLP) (C1) b) Compare and contrast CLP types and classifications (C2) c) Identify the causes of CLP (C3) d) Distinguish the types of velopharyngeal inadequacy with its causes (C4) e) Explain the classification of velopharyngeal orifice mechanism (C5) f) Elaborate the associated problems in persons with CLP: speech, language, feeding, dental, hearing, and psychological (C6)	10
Unit 2		
Assessment and management of cleft lip and palate speech	a) What are their roles and responsibilities of the team members involved in CLP rehabilitation (C1) b) Summarize the subjective assessment tools for individuals with CLP (C2) c) Identify the objective assessment tools for	10

Content	Competencies	Number of Hours
	phonatory, resonatory and articulatory features for individuals with CLP (C3) d) Compare and contrast types of CLP (C4) e) Decide the surgical management for individuals with CLP (C5) f) Justify the prosthetic management for individuals with CLP (C5) g) Recommend the speech therapy techniques for children with CLP (C5) h) Select the therapy techniques for children with CLP to improve feeding(C5) i) Elaborate on counselling and guidance for CLP population (C6)	
Unit 3		
Structural anomalies of tongue and mandible - Characteristics, assessment, and management	a) Define glossectomy and mandibulectomy (C1) b) Compare and contrast the types/ classification of glossectomy/ mandibulectomy (C2) c) Identify the etiologies of carcinoma of the tongue/mandible (C3) d) List the roles and responsibilities of the team members involved in management of individuals with structural anomalies of tongue/mandible (C4) e) Elaborate the associated problems in individuals with glossectomy/ mandibulectomy: speech, feeding, dental, and psychological (C6) f) Decide the surgical management for individuals with malignancies of tongue/mandible (C5) g) Justify the prosthetic management for individuals with glossectomy/ mandibulectomy (C5) h) Recommend the speech therapy techniques for individuals with glossectomy/ mandibulectomy (C5)	10
Unit 4		
Characteristics & assessment of laryngectomy	a) Define laryngeal carcinoma(C1) b) Outline the causes of laryngeal cancer (C2) c) Explain the signs and symptoms of cancerous larynx(C2) d) Classify the types of laryngeal malignancy(C2) e) Identify roles and responsibilities of each team member in laryngectomy rehabilitation (C3) f) Categorize the surgery for laryngeal cancer(C4) g) Explain the associated problems in laryngectomee: speech, feeding, and psychological (C5) h) Elaborate on pre- and post-operative counselling for total laryngectomy (C6)	10
Unit 5		
Management of speech and communication in laryngectomies	a) List the candidacy criteria for esophageal /tracheoesophageal/ artificial laryngeal speech (C1) b) Explain the therapy techniques for esophageal speech (C2)	10

Content	Competencies	Number of Hours
	c) Identify the complications and contraindications of esophageal/ tracheoesophageal/ artificial laryngeal speech (C3) d) Distinguish the types of tracheoesophageal puncture (C4) e) Compare and contrast voice prosthesis types, selection and fitting (C5) f) Discuss on the traditional approaches related to total laryngectomy rehabilitation (C6)	
Practical		
	a. Identify the different types of cleft lip and palate by looking at illustrations and images (P1) b. Perform 10 speech samples of children with cleft lip and palate and rate their nasality/ speech (articulation and cleft type errors) based on universal reporting parameters (P4) c. Identify the type of closure of velopharyngeal port for 5 normal individuals and 5 individuals with cleft lip and palate using videos of nasoendoscopy/ videofluroscopy (P1) d. Perform oral peripheral mechanism examination on 10 individuals and document the structure and functions of the articulators (P4) e. Perform the different types of occlusion in 10 individuals (P4) f. Identify the type of glossectomy by looking at pictures/illustrations (P1) g. Identify the different types of prosthesis in the management of head and neck cancer (P1) h. Perform the speech profile of 5 individuals with laryngectomy (P4) i. Identify parts of an artificial larynx and explore its use (P1) j. Prepare a checklist / pamphlet illustrating care of the stoma and T- tubes in vernacular (P5)	10

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	3	-
Small group discussion (SGD)	3	-
Self-directed learning (SDL)	3	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	6	-

Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Unit Test	Sessional Exam I & II
Assignments	Sessional Exam II
Record Book	End Semester Exam

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**
Sessional Examination 1	x	x	
Sessional Examination 2		x	x
Quiz / Viva	x	x	x
Assignments	x	x	x
Clinical/Practical Log Book/ Record Book	x	x	x
End Semester Exam	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	• Kummer, A.W. (2014). Cleft Palate and Craniofacial Anomalies: The Effects on Speech and Resonance. Delmar, Cengage Learning. • Peterson-Falzone, S. J., Cardomone, J. T., & Karnell, M. P. (2006). The Clinician Guide to Treating Cleft Palate Speech. Mosby, Elsevier. • Salmon . J & Shriley (1999). Alaryngeal speech rehabilitation for clinicians and by clinicians. ProEd • Yvonne, E (Ed) (1983). Laryngectomy: Diagnosis to rehabilitation. London: Croom Helm Ltd
Additional reference	• Berkowitz. S. (2001). Cleft Lip and Palate: Perspectives in Management. Vol II. San Diego, London, Singular Publishing Group Inc. • Falzone. P., Jones. M. A., & Karnell. M. P. (2010). Cleft Palate Speech. IV Ed., Mosby Inc. • Ginette, P. (2014). Speech Therapy in Cleft Palate and Velopharyngeal Dysfunction. Guildford, J & R Press Ltd. • Karlind, M. & Leslie, G. (2009). Cleft Lip and Palate: Interdisciplinary Issues and Treatment. Texas, Pro Ed.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Fluency and its Disorders**
Course Code	**ASL3122**
Academic Year	Third year
Semester	V
Number of Credits	4
Course Prerequisite	The student should have basic knowledge of anatomy and physiology for speech and hearing, and neurology.
Course Synopsis	This course deals with basic knowledge of fluency and its disorders, developmental trends of fluency, assessment and management strategies. It also deals with prosody, its development and implications in therapy.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Describe dimensions and development of fluency and suprasegmentals (C2)
CO2	Define and describe various fluency disorders with an emphasis on each of the disorder's salient features, onset, course and underlying theories (C2)
CO3	Perform formal and informal assessment of various fluency disorders and formulate the differential diagnosis (C4, P5)
CO4	Plan and apply specific treatment plan for those with fluency disorders (C5, P5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2	x	x						
CO3		x			x			
CO4		x				x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1:		
Fluency	1. To define fluency and the scope (C1) 2. To describe the factors influencing fluency (C2) 3. To define the features of suprasegmentals in speech: rate of speech, intonation, stress, rhythm and pause (C1) 4. To explain the characteristics of features of suprasegmentals in speech: rate of speech, intonation, stress, rhythm and pause (C2) 5. To discuss the suprasegmental features in typical speech (C2) 6. To describe the suprasegmental features in the speech of persons with fluency disorders (C2) 7. To describe the developmental aspects of suprasegmentals of speech (C2) 8. To explain normal non-fluency (C2)	11

Content	Competencies	Number of Hours
	Practicals: 1. Assess the rate of speech in 5 normal adults (C2, P5) 2. Record and analyse the supra segmental features in typically developing children between 2 and 5 years (C4, P5)	1
Unit 2:		
Stuttering and other fluency disorders	1. To define stuttering (C1) 2. To explain causes for stuttering (C2) 3. To discuss the characteristics of stuttering: core and peripheral characteristics, primary and secondary stuttering, effect of adaptation and situation (C2) 4. To describe the development of stuttering (C2) 5. To discuss normal non fluency: characteristics and differential diagnosis (C2) 6. To explain theories of stuttering: organic, functional, neurogenic, diagnosogenic and learning (C2) 7. To define cluttering (C1) 8. To explain causes and characteristics of cluttering (C2) 9. To define neurogenic stuttering (C1) 10. To explain causes and characteristics of neurogenic stuttering (C2)	11
	Practicals: 1. Listen/see samples of normal non fluency and stuttering in children and recognize the differences. (C4, P5) 2. Identify the types of dysfluencies in the recorded samples of adults with stuttering. (C2)	1
Unit 3:		
Assessment and Differential Diagnosis	1. To describe the assessment of fluency disorders: stuttering, cluttering, neurogenic stuttering and normal non fluency (C2) 2. To demonstrate the assessment of fluency disorders: stuttering, cluttering, neurogenic stuttering and normal non fluency (C3, P4) 3. To analyse the assessment findings (C4, P4) 4. To discuss subjective methods: protocols and tests (C2) 5. To describe the objective methods (C2) 6. To describe the qualitative and quantitative assessments (C2) 7. To explain and demonstrate the differential diagnosis of fluency disorders (C4)	10
	Practicals: 1. Record audio visual sample of 5 typically developing children and 5 adults for fluency analysis (P5). 2. Employ SPI on 5 typically developing children. (C3, P5) 3. Employ SSI on 5 adults with normal fluency. (C3, P5) 4. Employ self-rating scale on 10 adults with normal fluency (C3, P5)	2

Content	Competencies	Number of Hours
Unit 4:		
Management of stuttering	1. To explain the approaches to management (C2) 2. To outline the changing scenario in management of stuttering (C1) 3. To demonstrate the different techniques and strategies used in management with their rationale (C3, P4) 4. To discuss relapse and recovery from stuttering (C2) 5. To state the issues of speech naturalness in stuttering (C1)	11
	Practicals: 1. Demonstrate the following techniques: Airflow, prolongation, easy onset shadowing techniques. (C3, P4) 2. Record 5 speech samples with various delays in auditory feedback and analyse the differences (C4, P4)	1
Unit 5:		
Management of fluency-related entities	1. To describe the rationale in the management of cluttering, neurogenic stuttering and normal non-fluency (C2) 2. To demonstrate the techniques and strategies in the management of cluttering, neurogenic stuttering and normal non-fluency (C3, P4) 3. To explain the changes in normal non-fluency (C2) 4. To describe the relapse and recovery in cluttering and neurogenic stuttering (C2). 5. To discuss the prevention and early identification of stuttering and cluttering (C2)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT):		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	5	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	2	-
Clinic	-	-
Practical	5	-
Revision	-	-
Assessment	3	-
Total	**60**	**135**
Assessment Methods:		
Formative:	**Summative:**	
Class Test	Sessional Exam I & II	
Viva	End Semester Exam	

Assignments/Presentations	
Clinical assessment (OSCE, OSPE, WBPA)	
Practical / Record Book	

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Sessional Examination 1	x	x		
Sessional Examination 2			x	x
Quiz / Viva	x	x	x	x
Assignments/Presentations	x	x		
Practical / Record Book			x	x
Any others: OSCE, WPBA			x	x
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	• Guitar (2013). Stuttering- An integrated approach to its nature and treatment: 4th edition • Ward (2006) – Stuttering and Cluttering – Frameworks for understanding and treatment • Bloodstein and Ratner (2008) A Handbook on Stuttering: 6th edition
Additional References	• Curlee and Perkins (Ed.). (1985): Nature and treatment of stuttering. Taylor and Francis, London. • Manning, W. H. (2017). Clinical Decision Making in Fluency Disorders: 4th edition. Cengage Learning. • Ham, R. (1999). Clinical Management of Stuttering in Older Children & Adults. Aspen.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Paediatric Audiology**
Course Code	**ASL3123**
Academic Year	Third year
Semester	V
Number of Credits	4
Course Prerequisite	The basic knowledge of anatomy and physiology of ear and etiologies causing auditory disorders
Course Synopsis	This module will provide knowledge on normal auditory development to understand the various etiologies causing auditory disorders and also the different hearing evaluation procedures to be used in paediatric population

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To summarize the auditory development (C2)
CO2	To identify etiologies and relate them to different types of auditory disorders that may arise with case history (C5, P1)
CO3	To review and perform different hearing screening/identification procedures and their application (C3, P4)
CO4	To review and perform different aspects of paediatric behavioral evaluation (C3, P4)
CO5	To review and perform on different aspects of paediatric and physiological / electrophysiological evaluation (C3, P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x						x	
CO2	x	x						
CO3		x		x				
CO4		x				x		
CO5		x				x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Auditory development	a) To review of Embryology of the ear (C2) b) To summarize development of auditory system from periphery to cortex (C2) c) To describe Neuroplasticity (C2, P1, A1) d) To explain Prenatal hearing (C2) e) To describe normal auditory development from 0-2 years (C2, P1, A1) f) To explain Infant speech perception (C2) g) To identify Incidence and prevalence of auditory	10

Content	Competencies	Number of Hours
	disorders in children (C1, P1, A1)	
Unit 2		
Auditory disorders	a) To list Congenital and acquired hearing loss in children (C1) b) To describe the impact of Permanent minimal and mild bilateral hearing loss on auditory skills, speech-language, educational and socio-emotional abilities (C2, P1, A1) c) To describe the impact of Moderate to profound sensorineural hearing loss on auditory skills, speech-language, educational and socio-emotional abilities (C2, P1, A1) d) To describe the impact of Unilateral hearing loss on auditory skills, speech-language, educational and socio-emotional abilities (C2, P1, A1) f) To summarise Auditory Neuropathy Spectrum Disorders (C2) g) To Summarise Central auditory processing disorders (C2) h) To summarise Pseudohypacusis (C2) i) To summarise Auditory disorders in special population and multiple handicap (C2)	10
Unit 3		
Early identification of hearing loss	a) To explain the principles of early hearing detection and intervention programs (C2) b) To explain principles of hearing screening and recall history of hearing screening (C2) c) To review and discuss Joint Committee on Infant Hearing position statement (2000,2007,2013) (C2, A2) d) To list High risk register/ checklists available for screening and perform hearing screening (C3, P4, A5) e) To compare sensitivity and specificity of screening tests (C2) f) To differentiate Hearing screening in infants and toddlers between Indian and Global context (C4, P1,A3) g) To differentiate Hearing screening in preschool children between Indian and Global context (C4, P1,A3) h) To differentiate Hearing screening in school-age children (including screening for CAPD) between Indian and Global context (C4, P1,A3)	10
Unit 4		
Paediatric assessment I	a) To demonstrate Behavioral observation audiometry (C2, P5, A3) b) To demonstrate Conditioned orientation reflex audiometry (C2, P5, A3) c) To demonstrate Visual reinforcement audiometry,	10

Content	Competencies	Number of Hours
	TROCA, play audiometry (C2, P5, A3) d) To justify Pure tone audiometry in children: Test stimuli, response requirement and reinforcement (C2, A3) e) To differentiate Speech audiometry (SRT, SDT); Speech recognition and speech perception tests developed in India) (C4, P1,A3) f) To demonstrate Bone conduction speech audiometry (C2, P5, A3) g) To demonstrate Immittance evaluation in paediatric population (C2, P5, A3) h) To demonstrate Central auditory processing disorders assessment (C2,P5,A3)	
Unit 5		
Paediatric assessment II	a) To perform & analyse Recording and interpretation of OAE in paediatric population (C4, P4, A5) b) To summarise the factors affecting OAE in paediatric population (C2) c) To perform & analyse recording and interpretation of click evoked and tone burst evoked ABR in paediatric population (C4, P4, A5) d) To explain the factors affecting ABR in paediatric population (C2) e) To justify recording ASSR in paediatric population (C2, A3) f) To apply & differentiate recording AMLR, ALLR in paediatric population (C4, P1, A3) g) To justify assessment of hearing loss in special population (C2, A3) h) To categorize diagnostic test battery for different age groups (C2) i) To Justify Diagnosis and differential diagnosis (C2, A3)	10
Practicals	a) To summarise after observing a child with normal hearing (0-2 years) in natural settings and write a report on his/her responses to sound. (C2) b) To summarise after observing a child with hearing impairment (0-2 years) in natural settings and write a report on his/her responses to sound with and without his amplification device (C2) c) To apply and perform HRR on at least 3 new borns and interpret responses (C3, P4, A5) d) To comment and identify based on the case history, reflect on the possible etiology, type and degree of hearing loss the child may have. (C5, P1, A1) e) To Compare ABR wave forms in children of varying ages from birth to 24 months. (C2)	10

Content	Competencies	Number of Hours
	f) To summarise after observing live or video of BOA/VRA of a child with normal hearing and hearing loss and write a report on the instrumentation, instructions, stimuli used, procedure and interpretation. (C2) g) To summarise after observing OAE in a child with normal hearing and a child with hearing loss. Write a report on the instrumentation, protocol used and interpretation (C2) h) To summarise after observing ABR in a child with normal hearing and a child with hearing loss. Write down a report on the instrumentation, protocol used and interpretation (C2) i) To summarise after observing Immittance evaluation in a child with normal hearing and a child with hearing loss. Write a report on the instrumentation, protocol used and interpretation (C2) j) To use role play and demonstrate how the results of audiological assessment are explained to caregiver in children with the following conditions • Child referred in screening and has high risk factors in his history • Child with chronic middle ear disease • Child with CAPD • Child with severe bilateral hearing impairment (C2, P5, A3)	

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	3	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	2	-
Clinic	-	-
Practical	10	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Unit Test	Sessional Exam I & II
Assignments	End Semester Exam

Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x			
Sessional Examination 2			x	x	
Quiz / Viva					x
Assignments					x
Practical / Record Book	x	x	x	x	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	• Tharpe, A. M., & Seewald, R. (Eds.). (2016). *Comprehensive handbook of pediatric audiology*. Plural publishing. (core text book) • Finitzo, T., Sininger, Y., Brookhouser, P., & Village, E. G. (2007). Year 2007 position statement: Principles and guidelines for early hearing detection and intervention programs. Paediatrics, 120(4), 898–921. http://doi.org/10.1542/peds.2007-2333 • Northern, J.L. and Downs, M.P. (2014). Hearing in Children. 6th Ed. San Diego: Plural Publishing. • www.jcih.org
Additional reference	• Madell, J.R., & Flexer, C. (2008). Paediatric Audiology: Diagnosis, Technology, and Management. Ney York NY: Thieme Medical Publishers.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Aural Rehabilitation in Children**
Course Code	**ASL3124**
Academic Year	Third year
Semester	V
Number of Credits	4
Course Prerequisite	Students should have basic knowledge regarding difficulties faced by children with hearing impairment with respect to spoke language acquisition, hearing abilities and rehabilitation options available for them.
Course Synopsis	The module will provide information regarding auditory development, spoken communication, acoustic accessibility, listening needs, learning environment, auditory training, Indian perspectives.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Describe the different communication options available for young children with hearing impairment. (C4)
CO2	Explain the impact of hearing impairment on auditory development and spoken language communication. (C4)
CO3	Describe factors that affect acoustic accessibility and strategies to manage them at home and in classroom. (C4)
CO4	Design activities for auditory training at different levels (C4, P3)
CO5	Enumerate how the needs of individuals with hearing impairment using sign language and spoken language as form of communication in India are being met. (C4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2		x						
CO3	x	x						
CO4	x	x						
CO5	x							

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Auditory development, spoken communication and acoustic accessibility	a. Define and Explain Sensitivity period for auditory development (C2) b. Explain the impact of hearing impairment on auditory development, spoken language acquisition, parent child communication (C4) c. List the factors affecting auditory development (C4) d. Analyse hearing loss implications for speech	12

Content	Competencies	Number of Hours
	perception: acoustics of speech (C4) e. Illustrate optimizing hearing potential through hearing aids (C3) f. Illustrate optimizing hearing potential through cochlear implants (C3) g. Explain barriers to acoustic accessibility: distance, signal to noise ratio, reverberation (C2) h. Modifying the listening environment for infants, toddlers schools (C3) i. Comprehend and compare signal to noise ratio enhancing technologies personal FM, loop systems, desktop group systems, blue tooth connectivity (C3)	
Unit 2		
Communication options	a) Illustrate Detection and confirmation hearing loss (C3) b) Explain parent support counselling, individual family service plan (C2) c) Select communication options (C4) d) Demonstrate Auditory oral approach (C3) e) Demonstrate Auditory verbal therapy (C3) f) Describe Manual/sign language: Indian and Global context (C2) g) Describe Cued speech (C2) and Demonstrate total communication (C3) h) Choose listening devices hearing aid/cochlear implant (C3) i) Plan early intervention programs (C3)	12
Unit 3		
Optimal listening and learning environments infancy and early childhood	a) Describe involvement of family (C2) b) Classify factors impacting family involvement, supporting families through information and education (C3) c) Constructing optimum listening and learning environment (C3) d) Sketch Intervention: Assessment, auditory learning, listening and language facilitation techniques in infancy and early childhood (C3) e) Summarize issues with children with mild hearing loss, unilateral hearing loss, (C4) f) Analyse children with hearing loss, ANSD or APD: Children are intervened late (C4) g) Analyse children with hearing loss and other special needs (C4) h) Relate listening and spoken language in school age: benefits of inclusion (C1) i) Built intervention at school age: Functional hearing assessment, communication assessment and intervention to integrate with academic targets (C3)	12

Content	Competencies	Number of Hours
Unit 4		
Auditory - speech reading training and literacy	a) Explain candidacy for auditory training and speech reading (C2) b) Construct auditory training/learning four design principles skill, stimuli, activity, and difficulty level (C3) c) Memorize early training Objectives (C1) d) Plan Analytic and Synthetic training Objectives (C3) e) Plan Formal and informal training (C3) f) Plan and sketch Auditory training for infants and very young children (C3, P3) g) Predict outcomes of training (C2) h) Memorize Speech and language and literacy characteristics (C1) i) Sketch out speech language and literacy evaluation assessment (C3) j) Plan speech language therapy (C3)	12
Unit 5		
Indian perspectives	a) Find the prevalence of hearing impairment in children (C1) b) Recognize education of the deaf in India historical perspectives (C1) c) Comprehend available resources for education of the hearing impaired (C2) d) Summarize early intervention programs and centres (C2) e) Summarize schools for the hearing impaired; day schools, residential schools (C2) f) Discover beyond school: college and vocational training (C3) g) Choose training manpower resources for service delivery (C3) h) Describe Indian sign language (C2) i) Describe training sign language interpreters (C2) j) Describe cued speech in India (C1) k) Categorize assessment and therapy tools developed for individuals with hearing impairment in India. (C4)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	5	-
Self-directed learning (SDL)	5	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-

Clinic	-	-
Practical	5	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Assignments	Sessional Exam I & II
Unit test	End Semester Exam

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Sessional Examination 1	x	x	x		
Sessional Examination 2			x	x	x
Assignments / Test		x			x
Practical / Record Book		x		x	x
End Semester Exam	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	a) Fitzpatrick, E.M., and Doucet S.P. (2013) (Eds). Paediatric Audiologic Rehabilitation. Thieme, New York b) Hosford-Dumm, H., Roser, R., & Valente, M. (2007). Audiology Practice Management (2nd edition edition). New York: Thieme. c) Mardell, J., & Flexer, C. (2013). Paediatric Audiology: Diagnosis, Technology, and Management (2nd ed.). New York, NY: Thieme. d) Schwartz, S., (2007) Choices in Deafness : a Parent‟s guide to Communication Options , 3rd edition Woodbine house Bethesda e) Tye-Murray, N., (2014) Foundations of Aural Rehabilitation: Children , adults and their family members 4th edition Plural Publishing San Diego
Additional reference	• Rout, N and Rajendran, S. (2015). Hearing aid Counselling and Auditory training Manual, A publication of NIPMED, Chennai. Freely downloadable from http://niepmd.tn.nic.in/publication.php. ISBN 978-81-928032-5-8. • Status of Disability in India Hearing Impairment (2012) Rehabilitation Council of India, New Delhi

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Speech-Language Pathology**
Course Code	**ASL3131**
Academic Year	Third year
Semester	V
Number of Credits	3
Course Prerequisite	Understanding of speech & language disorders
Course Synopsis	The module will make the student learn the diagnostics and therapeutic approaches for speech & language disorders

Course Outcomes (COs): At the end of the course student shall be able to:

CO1	To select the procedures to assess children and adults with language disorders, speech sound disorders, motor speech disorders, laryngectomee and fluency disorders (P1)
CO2	To perform diagnostic procedures on patients/ client contacts for voice disorders, speech sound disorders and fluency disorders (P4, A3)
CO3	To demonstrate the procedures for team consultation and counselling (P2, A2)
CO4	To perform the speech language therapy techniques in children with language disorders/speech sound disorders/ motor speech disorders (P4, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2		x		x				
CO3			x		x			
CO4		x		x				

Course Content and Outcomes:

Content	Competencies	Number of Hours
Know (Concepts)	To select the procedures to assess speech fluency and its parameters using standardized tests for children and adults (P1)	1
	To relate the differential diagnosis of motor speech disorders in children (P1)	1
	To select the procedures to assess individuals with cleft lip and palate, and other oro-facial structural abnormalities (P1)	1
	To select the procedures to assess laryngectomee and provide management options (P1, A1)	1
Know-How (Ability to apply)	To demonstrate the ability to administer at least two standard tests for childhood language disorders. (P2, A2)	1
	To demonstrate the ability to record a speech sample for analysis of fluency skills (including blocks & its frequency, rate of speech, prosody, etc.). (P2, A2)	1

Content	Competencies	Number of Hours
	To demonstrate the ability to assess posture and breathing for speech in children with motor speech disorders. (P2, A2)	1
	To demonstrate the ability to consult with inter-disciplinary medical/rehabilitation team and counsel the individual/family regarding management options and prognosis. (P2, A2)	1
Show (Demonstrate in a clinical diary/log book based on clinical reports/recordings, etc.)	To follow instructions on rating of cleft, speech intelligibility and nasality – minimum of 2 individuals with cleft lip and palate (P3, A3)	1
	To follow instructions on language assessment - minimum of 2 individuals with cleft lip and palate. (P3, A3)	1
	To follow instructions on transcription of speech sample and assessment of percentage dis/dysfluency– minimum of 2 individuals with stuttering. (P3, A3)	1
	To follow instructions on assessment of rate of speech on various speech tasks – at least on 2 children & adults. (P3, A3)	1
Do (Perform on patients/ client contacts)	To prepare voice assessment report - minimum of 2 individuals with voice disorders (P4, A3)	1
	To prepare fluency assessment report - minimum of 2 individuals with fluency disorders (P4, A3)	1
	To perform oral peripheral examination on minimum of 2 individuals with cleft lip and palate (P4, A3)	1
	To perform the speech language stimulation/therapy techniques on 5 children with language disorders/speech sound disorders/ motor speech disorders – minimum 5 sessions of therapy for each child. (P4, A3)	1

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	119	-
Practical	16	48
Revision	-	-
Assessment	-	-
Total	**135**	**48**

Assessment Methods:				
Formative	**Summative**			
Practical record book	End Semester External Viva (Clinical)			
Class Test				
Internal Viva (Clinical)				
Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Practical record book	x	x	x	x
Class Test	x			
Internal viva	x	x	x	x
End Semester External viva	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	1. Hedge, M. N. & Pomaville, F. (2013). Assessment of Communication Disorders in Children – Resources and Protocols (2nd Ed.). San Diego, CA: Plural Publishing. 2. Hedge, M. N. & Freed, D. (2013). Assessment of Communication Disorders in Adults. San Diego, CA: Plural Publishing.
Additional reference	1. Roth, F. P., & Worthington, C. K. (2005). Treatment resource manual for speech language pathology (3rd ed.). Australia; Clifton Park, NY: Thomson Delmar Learning.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Audiology**
Course Code	**ASL3132**
Academic Year	Third year
Semester	V
Number of Credits	4
Course Prerequisite	Detailed theoretical understanding of electrophysiological tests (Auditory Brainstem Responses), physiological test (Tympanometry and acoustic reflexes, Otoacoustic emissions), Implantable devices, Vestibular system anatomy and physiology, and principles of auditory training
Course Synopsis	The module will provide the student with the fundamental practical knowledge and hands on practice of basic electrophysiological & physiological tests, behavioural vestibular tests, and planning auditory training activities.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Justify the need for ABR testing and Select appropriate protocol, Analyze and Interpret the Waveform (C3, P3)
CO2	Analyse Immittance audiometry findings on clinical population and decide when to use high frequency tympanometry and interpret the findings (C3, P3)
CO3	Choose screening and diagnostic OAE protocol and interpret the findings (C3,P3)
CO4	Plan appropriate auditory training technique based on audiological findings (C3, P3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x							
CO2		x			x			
CO3	x	x						
CO4		x			x			

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Know (Concepts)	Explain different protocol used in ABR (C3,P1)	1
	Explain differences between threshold estimation and site of lesion testing (C3)	2
	Explain the waveform differences in site of lesion and threshold estimation (C3, P2)	2
	Explain the procedure of tymaponmetry, reflexometry, high frequency tympanometry (C3, P1)	1
	Choose screening and diagnostic OAEs, different protocols in TEOAE and DPOAE (C3, P2)	1

Content	Competencies	Number of Hours
Know-How (Ability to apply)	Apply protocol for threshold estimation and site of lesion testing (C3, P2)	1
	Analyse the waveform in threshold estimation and site of lesion testing (C3, P3)	1
	Experiment with routine and high frequency tympanometry (C3, P4)	2
	Explain multi-component tympanometry procedure and it findings (C3, P4)	2
	Distinguish screening and diagnostic OAEs, perform TEOAE and DPOAE (C3, P4)	1
	Classify different auditory training techniques (C3, P3)	1
Show (Demonstrate in a clinical diary/log book based on clinical reports/recordings, etc.)	Demonstrate the protocol used in threshold estimation and site of lesion (C3, P4)	1
	Demonstrate the procedure used in routine tympanometry and multi component and multi frequency testing (C3, P4)	2
	Apply protocol to screening and diagnostic OAEs (C3, P4)	2
	Demonstrate different techniques used in auditory training. (C3, P4)	2
Do (Perform on patients/ client contacts)	Make use of threshold estimation and site of lesion protocol and obtain waveforms on 3 normal and hearing impaired participants (C3, P4)	2
	Analyse 5 ABR waveforms (threshold estimation & site of lesion) testing waveforms from the date base (C3, P4)	2
	Analyse multi component and multifrequency on normal and clinical participants, compare with routine tympanometry(C3, P4)	2
	Analyse TEOAE and DPOAE findings on different degrees of SN hearing loss participants (5) (C3, P4)	1
	Analyse ABR & OAE and correlate the test findings on 5 clinical population(C3, P4)	2
	Apply auditory training technique and 5 hearing impaired participants and observe the response (C3, P4)	2
	Apply different vestibular tests on SNHL participants and observe the response (C3, P3)	2

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Seminar	-	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	145	-

Practical	35	105
Revision	-	-
Assessment	-	-
Total	**180**	**105**

Assessment Methods:	
Formative	**Summative**
Practical record book	Clinical exam (Internal)
Internal Viva (Clinical)	

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Practical / Record book	x	x	x	x
Internal viva	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	• Rout, N and Rajendran, S. (2015). Hearing aid Counselling and Auditory training Manual, A publication of NIPMED, Chennai. Freely downloadable from http://niepmd.tn.nic.in/publication.php. ISBN 978-81-928032-5-8. • Tye-Murray, N., (2014) Foundations of Aural Rehabilitation: Children , adults and their family members 4th edition Plural Publishing San Diego Katz, J. (2014). Handbook of Clinical Audiology (7th International edition edition.). Lippincott Williams and Wilkins. • Seewald, R., and Thorpe, A.M. (2011). Comprehensive Handbook of Paediatric Audiology, San Diego: Plural Publishing. (core text book) • Mankekar, G. (2014). Implantable Hearing Devices other than Cochlear Implants. Springer India. • Møller A.R. (2006). Cochlear and Brainstem Implants (Vol. 64)
Additional reference	• Hood, L. J. (1998). Clinical Applications of the Auditory Brainstem Response. Singular Publishing Group. • Hunter, L., & Shahnaz, N. (2013). Acoustic Immittance Measures: Basic and Advanced Practice (1 edition). San Diego, CA: Plural Publishing. • Jacobson, G. P., & Shepard, N. T. (2007). Balance Function Assessment and Management (1 edition). San Diego, CA: Plural Publishing Inc. • Jacobson, J. T. (1985). The Auditory brainstem response. College-Hill Press

SEMESTER - VI

COURSE CODE	:	COURSE TITLE
ASL3221	:	Motor Speech Disorders in Adults
ASL3222	:	Language Disorders in Adults
ASL3223	:	Aural Rehabilitation in Adults
ASL3224	:	Audiology in Practice
ASL3231	:	Clinical in Speech Language Pathology
ASL3232	:	Clinical in Audiology

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Motor Speech Disorders in Adults**
Course Code	**ASL3221**
Academic Year	Third year
Semester	VI
Number of Credits	4
Course Prerequisite	Basics in neuroanatomy & physiology of speech production mechanism.
Course Synopsis	The course will provide information on the causes and characteristics of motor speech disorders in adults. It will enable the students to assess the motor speech disorders in adults using subjective and objective methods and to plan appropriate remedial programs for the same.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	List out the underlying etiologies of motor speech disorder in adults. (C1)
CO2	Identify and associate the clinical profile with specific types of motor speech disorders in adults. (C3, P1)
CO3	Identify and select and perform the appropriate assessment tools and tasks for motor speech disorders in adults. (C4, P4)
CO4	Select and perform various remedial therapy techniques and implement on individuals with motor speech disorders. (C4, P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3		x				x		
CO4		x				x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Causes & Characteristics of dysarthria	a) Define of motor speech disorders (C1). b) Describe the causes of motor speech disorders with respect to classification, incidence and prevalence (C2) c) Be familiar with types of dysarthria (C2). d) Compare and classify the different etiology of motor speech disorders in adults (C3) e) Identify neural correlates of different types of dysarthria (C3). f) Correlate the impact of different sites of lesion on motor characteristics of individuals with motor speech disorders (C3). g) Correlate the physiologic, acoustic, perceptual	10

Content	Competencies	Number of Hours
	speech characteristics of individuals with motor speech disorders (C3).	
Unit 2		
Assessment and diagnosis of dysarthria	a) Outline the assessment protocol for motor speech disorders based on ICF model (C2) b) Identify the clinically appropriate subjective assessment tools for evaluation of phonatory, articulatory, respiratory, and resonatory sub systems(C4) c) Identify the clinically appropriate objective/instrumental assessment tools for evaluation of phonatory, articulatory, respiratory, and resonatory sub systems (C3, C4). d) Interpret subjective and objective voice production data using current literature (C3). e) Demonstrate the understanding of principle, procedure, advantages and disadvantages of each assessment tool (C3). f) Outline the assessment protocol for swallowing among individuals with motor speech disorders (C2, P5). g) Differentially diagnose between dysarthria, apraxia, aphasia, and other disorders (C3, P5).	10
Unit 3		
Management of dysarthria	a) Understand the principles and goals in rehabilitation of dysarthria (C2). b) Classify different approaches to management of motor speech disorders (C3). c) Demonstrate and explain the rationale for different behavioral techniques used in management of subsytems in dysarthria (C3). d) Summarize the medical and surgical procedures in treatment of dysarthria (C2).	10
Unit 4		
Assessment and management of apraxia in adults	a) Define apraxia (C1). b) Describe the causes of apraxia (C1). c) Be familiar with types of apraxia in adults (C1). d) Compare and classify the different etiology of apraxia in adults (C3). e) Identify neural correlates of different types of apraxia in adults (C1). f) Be familiar with physiologic, acoustic, perceptual speech characteristics of individuals with apraxia (C2). g) Outline the assessment protocol for apraxia based on ICF model (C3) h) Identify the clinically appropriate subjective and objective assessment tools for evaluation of phonatory, articulatory, respiratory, and resonatory	10

Content	Competencies	Number of Hours
	sub systems in apraxia (C3). i) Interpret subjective and objective voice production data using current literature (C3). j) Demonstrate the understanding of principle, procedure, advantages and disadvantages of each assessment tool (C3). k) Demonstrate and explain the rationale for different behavioral techniques used in management of subsytems in apraxia (C3).	
Unit 5		
Intervention strategies for voice disorders	a) Explain the need for referral/recommendations to co-professionals (C4). b) List the referral sources (C1). c) Explain the need for team approach in the dysarthria evaluation process (C2). d) Identify the roles and responsibilities of each team member (C3). e) Develop a counselling guidelines adults with dysarthria (C3).	10
Practical	1. Identify the cranial nerves and mention its origin and insertion from a picture/ model. Demonstrate methods to assess the cranial nerves (P1). 2. Perform the respiratory system using speech and non-speech tasks in 10 healthy adults (P4). 3. Perform the phonatory system using subjective and acoustic analysis in 10 healthy adults (P4). 4. Identify the clinical signs and symptoms by looking at a video of different neurological conditions resulting in Dysarthria (P1) 5. Record and explain the speech sample of 5 normal adults and compare with the audio sample of individuals with Dysarthria (P2) 6. Perform Duffy's intelligibility rating scale on 5 healthy adults (P4). 7. Perform Frenchay's Dysarthria Assessment on 5 healthy adults (P4). 8. Demonstrate activities to improve the functions of speech subsystem (P5). 9. Identify the signs of UMN and LMN based on a video (P1). 10. Demonstrate by preparing a low tech AAC for functional communication for an individual with apraxia (P5).	10

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	2	-
Small group discussion (SGD)	2	-

Self-directed learning (SDL)	2	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	2	-
Clinic	-	-
Practical	7	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:

Formative	**Summative**
Unit Test	Sessional Exam I & II
Assignments	End Semester Exam

Mapping of Assessment with COs:

Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Sessional Examination 1	x	x		
Sessional Examination 2			x	x
Quiz / Viva	x	x	x	x
Assignments	x	x	x	x
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	• Duffy, J. R. (2013). *Motor speech disorders-e-book: Substrates, differential diagnosis, and management*. Elsevier Health Sciences.
Additional reference	• Brookshire, R. H. (2007). *Introduction to Neurogenic Communication Disorders.* University of Virginia, Mosby. • Dworkin, P. J. (1991). *Motor Speech Disorders: A Treatment Guide.* St. Louis: Mosby. • Ferrand, C. T., & Bloom, R. L. (1997). *Introduction to Organic and Neurogenic Disorders of Communication: Current Scope of Practice.* US, Allyn & Bacon. • Goldenberg, G. (2013). *Apraxia: The Cognitive Side of Motor Control.* Oxford University Press, UK. • Yorkston, K. M., Beukelman, D. R., Strand, E. A., & Hakel, M. (2010). *Management of Motor Speech Disorders in Children and Adults (3rd Ed.).* Austin, Texas; Pro-Ed Inc • Lebrun, Y. (1997). *From the Brain to the Mouth: Acquired Dysarthria and Dysfluency in Adults.* Netherlands, Kluwer Academic Publishers. • Murdoch, B. E. (2010). *Acquired Speech and Language Disorders: A Neuroanatomical and Functional Neurological Approach (2nd Ed.).* New Delhi, India: John Wiley & Sons. • Papathanasiou, I. (2000) (Eds.). *Acquired Neurogenic Communication Disorders – A Clinical Perspective*, Chapters 5, 6 & 7. London, Whurr Publishers.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Language Disorders in Adults**
Course Code	**ASL3222**
Academic Year	Third year
Semester	VI
Number of Credits	4
Course Prerequisite	The student should have basic knowledge of anatomy and physiology of central nervous systems (CNS)
Course Synopsis	The course deals with the basic knowledge of Neurogenic Language Disorders in Adults, characteristics, assessment and management of the disorders

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To outline the neural basis of language (C2, P1)
CO2	To understand the characteristics of language disorders in adults (C5, P4)
CO3	To evaluate and diagnose speech characteristics in adults with language disorders (C5, P5)
CO4	To learn about the techniques for the management of speech and related errors in language disorders seen in adults (C6, P6)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3					x	x		
CO4					x	x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Neural bases of language	a) Summarize the Neuroanatomical, Neurophysiological, Neurobiological and Cognitive correlates of language functions (C2) b) Outline language processing in bi/multilingualism (C2) c) Summarize language processing in right hemisphere (C2) d) Explain the Neuro-linguistic models of language processing (Connectionist models, Hierarchical models, Global models, Process models Computational models (C2) **Practical** a) Identify different lobes of in the brain by looking at a model/ image and label the language areas. (P1) b) In a given brain model mark the subcortical structures involved in language processing/	12

Content	Competencies	Number of Hours
	production.(P1)	
Unit 2		
Language disorders in adults	a) Define Aphasia: cortical and subcortical, Primary progressive aphasia, Traumatic brain injury, Right hemisphere damage, Schizophasia, Dementia (C1) b) Identify the causes of Aphasia: cortical and subcortical, Primary progressive aphasia, Traumatic brain injury, Right hemisphere damage, Schizophasia, Dementia (C2) c) Explain the characteristics of speech, language and cognition in Aphasia: cortical and subcortical, Primary progressive aphasia, Traumatic brain injury, Right hemisphere damage, Schizophasia, Dementia (C3 C5) d) Compare and contrast various language disorders seen in adults (C2) **Practical** a) List the language characteristics in different types of aphasia from a video (P1) b) Analyse the speech, linguistic and non-linguistic features seen in Right hemisphere damaged individual from a video (P4)	12
Unit 3		
Assessment and diagnosis of language disorders	a) List the assessment tools for aphasia, primary progressive aphasia, traumatic brain injury, right hemisphere damage, schizophasia and dementia(C4) b) Summarize the assessment of Linguistic behaviour including speech: scales, tests, protocols (C2) c) Decide the assessment tools for assessing cognitive, social, behavioural characteristics (C5) d) Identify the Medical Investigation: Neuroimaging (C3) **Practical** a) Evaluate language and cognition on 3 3 normal individuals by using a standardized test battery on (P5) b) Assess bilingual aphasia test on 3E healthy normal adults (P5)	12
Unit 4		
Management of language disorders	a) Elaborate on the medical, linguistic and programmed intervention for persons with Aphasia: cortical and subcortical (C6) b) Recommend the therapy techniques for persons with Primary progressive aphasia (C5) c) Explain the therapy techniques for persons with Traumatic brain injury (C5) d) Justify the therapy techniques for persons with Right hemisphere damage (C5) e) Choose the therapy techniques for persons with	12

Content	Competencies	Number of Hours
	Schizophasia (C5) f) Determine the therapy techniques for persons with Dementia (C5) **Practical** a) Demonstrate various facilitatory and compensatory therapy techniques in the management of aphasia (P2) b) Formulate activities to assess linguistic abilities in dementia and aphasia (P6)	
Unit 5		
Rehabilitation issues relating to adult language disorders	a) What are the roles and responsibilities of team involved in the rehabilitation of persons with adult language disorders(C1) a) Explain the factors influencing the assessment and intervention for language in the context of bilingual and multilingual influences (C2) b) Summarize the factors influencing the assessment and management of language in persons who are preliterate, illiterate and literate(C2) c) Identify assessment tools for assessing quality of life (C3) d) List the recovery patterns and prognosis in adults with language disorders (C4) e) What are the age related influence in adults with language disorders (C1) f) Elaborate on counselling and guidance for adults with language disorders (C6) g) Explain the augmentative and alternative strategies for adults with language disorders (C5) **Practical** a) Demonstrate various facilitatory and compensatory therapy techniques in the management of aphasia (P2) b) Formulate activities to assess linguistic abilities in dementia and aphasia (P6) c) Demonstrate counselling by a role play for a given profile of an individual with adult language disorder (P2) d) Compose a counselling checklist /guideline that can be used with the family members (P6)	12

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	4	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-

Case-Based Learning (CBL)	4	-
Clinic	-	-
Practical	7	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative	**Summative**
Unit Test	Sessional Exam I & II
Assignments	End Semester Exam
Record Book	

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Sessional Examination 1	x	x	x	
Sessional Examination 2			x	x
Quiz / Viva	x	x	x	x
Assignments	x	x	x	x
Practical / Record Book	x	x	x	x
End Semester Exam	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main reference	• Brookshire, R. H., & McNeil, M. R. (2014). Introduction to Neurogenic Communication Disorders. Elsevier Health Sciences. • Hegde, M. N. (2006). A coursebook on aphasia and other neurogenic language disorders. Thomson Delmar Learning. • Chapey, R. (2008). Language Intervention strategies in aphasia and related neurogenic communication disorders. Philadelphia: Lippincott Williams and Wilkins • Lapointe, L. L. (2005). Aphasia and related neurogenic language disorders. (3rdEdn.). Thieme.
Additional reference	• Chapey, R. (2008). Language Intervention strategies in aphasia and related neurogenic communication disorders. Philadelphia: Lippincott Williams and Wilkins • Davis, G. A. (2014). Aphasia and related Communication Disorders. Pearson Education Inc. • Edwards, S. (2005). Fluent Aphasia. Cambridge University Press. • Laine, M. & Martin, N. (2006). Anomia: Theoretical and Clinical Aspects. Psychology Press. • Lapointe, L. L. (2005). Aphasia and related neurogenic language disorders. (3rdEdn.). Thieme. • Lapointe, L. L., Murdoch, B. E., & Stierwalt, J. A. G. (2010). Brain based Communication Disorders. Plural Publishing Inc. • Stemmer, B., & Whitaker, H. A. (Eds.). (2008). Handbook of Neuroscience of Language. Elsevier. • Whitworth, A., Webster, J., & Howard, D. (2005). A cognitive neuropsychological approach to assessment and intervention in aphasia: A clinician's guide. Psychology Press.

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Aural Rehabilitation in Adults**
Course Code	**ASL3223**
Academic Year	Third year
Semester	VI
Number of Credits	4
Course Prerequisite	Students should have basic knowledge on diagnosing auditory disorders
Course Synopsis	The module will provide information on impact of hearing loss on various aspects of quality of life of adults and older adults and also introduction on aural rehabilitation programs in adults and older adults with hearing loss.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To analyse impact on the quality of life of adults with hearing impairment (C4, P4)
CO2	To assess the benefits and limitations of auditory training and speech reading (C4, P4)
CO3	To understand and analyse factors that impair communication and suggest facilitative and repair strategies (C4, P4)
CO4	To identify components of aural rehabilitation program for adults (C4, P4)
CO5	To identify strategies used with the older adult to implement a successful aural rehabilitation program (C4, P4)
CO6	To perform administration using different tools for assessment of hearing handicap, attitudes and beliefs that can impact aural rehabilitation (C4, P4)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2	x	x						
CO3			x	x				
CO4		x	x					
CO5		x	x					
CO6		x	x					

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Aural rehabilitation	Define the Scope of aural rehabilitation in adults (C1,P1) Relationship between audiometric data, hearing difficulties and amplification considerations and Limitations of audiometric data (C4) Analyse the Quality of life and impact on income, education, employment (C4)	12

Content	Competencies	Number of Hours
	Assessing communication handicap : interviews, questionnaires (C4, P6) Assess the importance of Vocational rehabilitation (C4) Find out the Prevalence of hearing loss in children (global and Indian data) (C1) Find out the Prevalence of hearing loss in adults (global and Indian data) (C1)	
Unit 2		
Listening training and speech reading for adults	Analyse speech sample of individual with hearing loss by listening to their speech (C4,P4) Explain the Candidacy for auditory training (C2, P3) Take part in Listening training to improve speech perception (C4, P4) Formulate Listening training to improve music perception (C4, P4) Identify the benefits of auditory training (C3) Assess the speech reading for communication (C4) Explain the characteristics of good lip readers versus good speech readers (C2) Explain the factors affecting speech reading (C2) Assess the vision only and auditory only processing of speech (C4) Formulate the Traditional methods of speech reading training (C6)	12
Unit 3		
Communication strategies	Explain the factors that influence the reception of spoken message(C2, P3) Explain and demonstrate the facilitative communication strategies (C4, P4) Explain and demonstrate the repair strategies (C4, P4) Assess on repairing a communication breakdown in hearing impairment (C4, P2) Explain conversational styles (C2) Analyse different Communication strategies training formal instruction, guided learning, real world practice (C4, P4)	12
Unit 4		
Aural rehabilitation for adults	List the principles of aural rehabilitation in adults(C1) Explain the psychological impact of hearing loss (C2) Explain support system through counselling(C2) Explain and orient towards hearing aid use (C2) Explain needs of assessment for non-hearing and assistive technology for adults (C4) Explain the categories of assistive technology (C4) Take a part in aural rehabilitation programs: Individual vs group (C4, P4) Take a part in components of aural rehabilitation program (C4, P4) Analyse the process of aural rehabilitation (C4)	12

Content	Competencies	Number of Hours
	Assess on communication under adverse listing conditions (C4)	
Unit 5		
Aural rehabilitation for older adults	Assess the influence of aging on the older adults: quality of life and psychological perspectives (C4) Assess the influence of aging on the older adults: quality of life and social perspectives (C4) Analyse the auditory barriers to communication (C4) Analyse the non-auditory barriers to communication (C4) Analyse and demonstrate barriers to aural rehabilitation (C4, P4) List the factors influencing hearing aid use by the older adult (C2) Take a part in aural rehabilitation for different populations of older adult: independent and semi-independent older adult (C4, P4) Take a part in aural rehabilitation for different populations of older adult: dependent older adult (C4, P4) Analyse stages of Aural rehabilitation in an old age home (C4, P4)	12

Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	05	-
Small group discussion (SGD)	-	-
Self-directed learning (SDL)	4	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	6	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:	
Formative:	**Summative:**
Unit Test	Sessional Exam I & II
Quiz	End Semester Exam
Viva	
Assignments/Presentation	
Clinical assessment	
Practical / Record Book	

Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional Examination 1	x	x	x			
Sessional Examination 2				x	x	x
Quiz / Viva	x	x	x	x		
Assignments/Presentations		x	x			x
Practical / Record Book		x	x		x	
End Semester Exam	x	x	x	x	x	x

Feedback Process:	Mid-Semester Feedback
	End-Semester Feedback
Main Reference:	• Hull, R. H., (2014) ed. Introduction to Aural Rehabilitation 2nd edition Plural Publishing, San Diego Chapters 1, 2, 11 to 20 • Schow, R.L. & Nerbonne, M.A., (2012). Introduction to Audiologic Rehabilitation (6th edition), Allyn & Bacon, Boston. • Tye-Murray, N., (2014). Foundations of Aural Rehabilitation: Children , adults and their family members 4th edition Plural Publishing San Diego Chapters 5-10 (https://www.vitalsource.com/referral?term=9781635500745)
Additional References	• Hosford-Dumm, H., Roser, R., & Valente, M. (2007). Audiology Practice Management (2nd edition edition). New York: Thieme. • Mardell, J., & Flexer, C. (2013). Paediatric Audiology: Diagnosis, Technology, and Management (2nd ed.). New York, NY: Thieme. • Rout, N and Rajendran, S. (2015). Hearing aid Counselling and Auditory training Manual, A publication of NIPMED, Chennai. Freely downloadable from http://niepmd.tn.nic.in/publication.php. ISBN 978-81-928032-5-8. • Schwartz, S., (2007) Choices in Deafness : a Parent's guide to Communication Options , 3rd edition Woodbine house Bethesda

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Audiology in Practice**
Course Code	**ASL3224**
Academic Year	Third year
Semester	VI
Number of Credits	4
Course Prerequisite	The basic knowledge on scope and practice of audiology
Course Synopsis	This module will help understanding legislations, policies related to hearing impaired, protocols and methods at various clinical practice set up of audiologist and understand tele practice and its application

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	To describe and apply highlights of legislations relating to hearing impairment and other disabilities and incorporate ethical practices in professional service delivery (C3, P1, A1)
CO2	To summarize on welfare measures, policies of government when needed (C2)
CO3	To describe and make use of different strategies to create awareness of hearing impairment and programs to address them (C6, P4)
CO4	To explain and make report the different clinical practice settings in audiology with reference to their requirement, protocols and role and responsibility of audiologist (C6, P4)
CO5	To describe the methods to measure the impact of noise on humans and strategies to address excessive noise exposure in industries and the community and measure the noise level in various areas (C6, P4)
CO6	To summarise terminology, technology and methods used in tele practice, and their application in audiological service delivery (C2)

Mapping of Course Outcome s (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x			x				
CO2	x		x					
CO3					x		x	
CO4				x				x
CO5	x	x						
CO6					x	x		

Course Content and Outcomes:

Content	**Competencies**	**Number of Hours**
Unit 1		
Scope, legislation and ethics in audiology	a) To summarise the Scope of practices in audiology (National-ISHA & International body-AAA) (C2) b) To summarise professional Ethics (C2) c) To summarise legislation and conventions relating to disability Need and historical aspects. (C2) d) To recall classification of hearing impairment and	10

Content	Competencies	Number of Hours
	able to apply knowledge and calculate disability certification. (C1, C3) e) To summarize rehabilitation council of India Act (1992) and its amendment (C2) f) To summarize person with disability act (1995) (C2) g) To summarize National Trust Act (1999) (C2) h) To summarize Right to education (2012) (C2) i) To summarize Biwako Millennium framework (2003) and Salamanca Statement 1994 (C2) j) To summarize UNCPRD (C2) k) To apply the concept of barrier free access and universal design relating to individuals with hearing impairment (C3)	
Unit 2		
Hearing health and strategies for prevention of hearing impairment	a) To summarize the epidemiology of hearing disorders (C2) b) To compare ICD and ICF (C2) c) To discuss on levels of prevention: Primary, secondary and tertiary (C2, A2) d) To summarize National programs and efforts national institutes and Welfare measures by Government (C2) f) To summarize on Camps (planning, purpose, organizing and providing remedial measures) (C2) g) To explain public education and information (media, radio broadcasts, street plays) (C2) h) To list and explain Hearing health and prevention programs (hearing help line, dangerous decibels, online hearing tests etc.) (C2)	10
Unit 3		
Audiological practice in different settings	a) To summarize information from audiological Private practice (C2) b) To summarize information from ENT clinics (C2) c) To summarize information from paediatric/neonatal clinic/department (C2) d) To summarize information at neurology department (C2) e) To summarize information from factories and Industry (C2) f) To summarize information from hearing aid dispensing centre/hearing aid industry (C2) g) To summarize information from rehabilitation centres such as DRC/CRCs (C2) h) To summarize information from schools for the hearing impaired (C2) i) To summarize information from cochlear implant clinics (C2) j) To summarize information from multiple handicap habilitation centre and others. (C2)	10

Content	Competencies	Number of Hours
Unit 4		
Noise and hearing conservation in industry and community	a) To define noise and classify types of noise (C2) b) To list and explain Sources of noise in the industry and community (C2) c) To describe effects of noise in the auditory system (outer, middle and inner ear) (C2, P1, A1) d) To explain Temporary threshold shift, permanent threshold shift, factors increasing the risk of NIHL (C2) e) To describe non auditory effects of noise (physiological, psychological, stress, sleep, job productivity and accidents) (C2, P1, A1) f) To review Legislations related to noise, permissible noise exposure levels, workers compensation, OSHA standards, Indian legislations related to noise (C2) g) To explain Instrumentation, measurement and procedure for measuring noise in industry (C2) h) To explain Instrumentation, measurement and procedure for measuring noise in community (C2) i)To explain Hearing conservation program (HCP), steps, record keeping (C2) j) To demonstrate use of Ear protective devices (C2, ,P5, A3)	10
Unit 5		
Scope and practice of tele audiology	a)To discuss on Introduction to tele-health: definition, history of tele-health (C2, A2) b)To discuss on terminologies-tele-health, tele medicine, tele practice (C2, A2) c) To discuss on Connectivity: internet, satellite, mobile data (C2, A2) d) To classify methods of tele-practice -store and forward and real time (C2) e) To summarize Ethics and Regulations for tele-audiology (C2, A1) f) To discuss on Requirements/Technology for tele-audiology: Web based platforms, Video conferencing, infrastructure (C2, A2) g) To review Manpower at remote end and audiologist end, training assistants for tele-audiology (C2) h) To summarize Audiological screening using tele-technology : new born hearing screening, school screening, community screening, counselling (C2) i) To summarize Diagnostic audiological services using tele-technology : video otoscopy, pure tone audiometry, speech audiometry, oto acoustic emission, tympanometry, auditory brainstem response (C2) k) To summarize Intervention / aural rehabilitation	10

Content	Competencies	Number of Hours
	using tele-technology :hearing aid counselling and troubleshooting, tinnitus, counselling, aural rehabilitation services, AVT, and counselling (C2)	
Practicals	a) To perform activities such as “Dangerous decibel” program (www.dangerousdecibels.org) (C3, P4, A5) b) To perform Noise measurement and attenuation measurement of ear protection devices. (C3, P4, A5) c) To measure level of sound using Sound level meter measurement in different areas (generator room, audio rooms) (P4) d) To perform Speech in noise assessment for 10 subjects (C3, P4, A5) e) To make a report after visiting an audiologist in different practice settings (C6, P4) f) To apply ICF protocols for patients with different disorders (C3) g)To list websites of national institutes, hearing aid companied, NGOs in disability field and describe the accessibility features and information provided (C1) h) To demonstrate remote controlling a PC based audiology equipment connected to internet using any authorized desktop sharing software (C2, P5, A3) i) To make one pamphlet/poster/ in local language that would address some aspect of audiology practice (C6, P4) j) To Perform Accessibility ability of your institute/center and prepare a report (C3, P4, A5)	10

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	45	135
Seminar	-	-
Small group discussion (SGD)	7	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	-	-
Practical	8	-
Revision	-	-
Assessment	-	-
Total	**60**	**135**

Assessment Methods:						
Formative	**Summative**					
Unit Test	Sessional Exam I & II					
Assignments	End Semester Exam					
Mapping of Assessment with COs:						
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**	**CO6**
Sessional Examination 1	x	x				
Sessional Examination 2			x	x		
Quiz / Viva	x	x	x	x	x	x
Assignments	x	x	x	x	x	x
Practical / Record Book	x	x	x	x	x	x
End Semester Exam	x	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback					
	End-Semester Feedback					
Main reference	• Audiology Telepractice; Editor in Chief, Catherine V. Palmer, Ph.D.; Guest Editor, Greg D. Givens, Ph.D. Seminars in Hearing, volume 26, number 1, 2005. • Bergland, B., Lindwall, T., Schwela, D.H., eds (1999). Guidelines on Community noise http://www.who.int/docstore/peh/noise/guidelines2.html WHO 1999 • BIS specifications relating to Noise Measurements.- IS:7194-1973 Specification for assessment of noise exposure during work for hearing conservation purposes. • Census of India information on disability • Dobie, R. A (2001). Medical legal evaluation of hearing loss, 2nd Ed. • Hearing health and strategies for prevention of hearing impairment WHO (2001). International classification of Functioning, Disability and Health. Geneva: WHO • Lipscomb, D. M. (1994). Hearing conservation – In industry, schools and the military. • Swanepoel de W, Hall JW 3rd .A systematic review of tele health applications in audiology. Telemed J E Health. 2010 Mar;16(2):181-200. doi: 10.1089/tmj.2009.0111. • UNCRPD						
Additional reference	• http://www.asha.org/Practice-Portal/Professional-Issues/Audiology-Assistants/Teleaudiology-Clinical-Assistants/ • http://www.asha.org/uploadedFiles/ModRegTelepractice.pdf • IS:10399-1982 Methods for measurement of noise emitted by Stationary vehicles • IS:6229-1980 Method for measurement of real-ear • IS:9167-1979 Specification for ear protectors. 95 • IS:9876-1981 Guide to the measurement of airborne acoustical noise and evaluation of its effects on man- IS:7970-1981 Specification for sound level meters. • IS:9989-1981 Assessment of noise with respect to community response. • John Ribera. Tele-Audiology in the United States. In Clinical						

	Technologies: Concepts, Methodologies, Tools and Applications (pp. 693-702), 2011. Hershey, PA: Medical Information Science Reference. doi:10.4018/978-1-60960-561-2.ch305 • Mandke, K and Oza R.K (2014). Private practice in speech pathology and audiology, 2014 ISHA • Philippe Valentin Giffard. Tele-Audiology. Tort, 2012. ISBN 6139256615, 9786139256617 • Rawool, V. W. (2012). Hearing conservation in occupational, recreational, educational and home setting. Thieme: New York • RCI, PWD and National Trust, and Right to education act • Richard Wootton, John Craig, Victor Patterson, editors. Introduction to telemedicine. Second edition. London: The Royal Society of Medicine Press Ltd. 2006. p. 206 ISBN: 1 85315 677 9. • Salamanca statement and framework for action • Scope of practice by RCI

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Speech-Language Pathology**
Course Code	**ASL3231**
Academic Year	Third year
Semester	VI
Number of Credits	3
Course Prerequisite	Understanding of speech & language disorders
Course Synopsis	The module will make the student learn the diagnostics and therapeutic approaches for speech & language disorders

Course Outcomes (COs): At the end of the course student shall be able to:

CO1	To select the procedures to assess adults with neuromotor and neurolanguage and swallowing disorders (P1, A2)
CO2	To perform the standard operating procedure on adults with neuromotor and neurolanguage and swallowing disorders (P4, A3)
CO3	To analyse the speech and language skills in neuro communication disorders (P4, A2)
CO4	To consult with inter-disciplinary medical/rehabilitation team and counsel the individual/family regarding management options and prognosis (P5, A3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x			x				
CO2		x		x				
CO3			x	x				
CO4				x	X			

Course Content and Outcomes:

Content	Competencies	Number of Hours
Know (Concepts)	To select the procedures to assess speech, language and swallowing skills using standardized tests for adults (P1)	2
	To be able to analyse the features (P1)	2
	To select the management options for speech language swallowing disorders (P1, A1)	2
Know-How (Ability to apply)	To demonstrate the ability to administer at least two standard tests for adult language disorders. (P2, A2)	2
	To demonstrate the ability to record and analysis of language and speech skills in adults with neuro communication disorders. (P2, A2)	2
	To demonstrate the ability to assess posture and breathing for speech in adult with motor speech disorders (P2, A2)	2

Content	Competencies	Number of Hours
	To demonstrate the ability to consult with inter-disciplinary medical/rehabilitation team and counsel the individual/family regarding management options and prognosis. (P2, A2)	2
Show (Demonstrate in a clinical diary/log book based on clinical reports/recordings, etc.)	To perform language assessment in post stroke individuals using standardized test (P3, A3)	2
	To perform dysphagia assessment using SOP and standardized test. (P3, A3)	2
	To perform assessment of Dysphagia in other associated conditions (P3, A3)	2
	To perform standardized assessment in motor speech disorders. (P3, A3)	2
Do (Perform on patients/ client contacts)	To perform voice therapy - minimum of 2 individuals with voice disorders (P4, A3)	2
	To perform fluency therapy - minimum of 2 individuals with fluency disorders (P4, A3)	2
	To perform dysphagia evaluation at bedside on minimum of two individuals (P4, A3)	2
	To apply stimulation/therapy techniques on 5 children with language disorders (P4, A3)	2

Learning Strategies, Contact Hours and Student Learning Time (SLT)		
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**
Lecture	-	-
Self-directed learning (SDL)	-	-
Problem Based Learning (PBL)	-	-
Case Based Learning (CBL)	-	-
Clinic	150	-
Practical	30	90
Revision	-	-
Assessment	-	-
Total	**180**	**90**

Assessment Methods:	
Formative	**Summative**
Practical / Record book	End Semester External Viva (Clinical)
Class Test	
Internal Viva (Clinical)	

Mapping of Assessment with COs:				
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**
Practical / Record book	x	x		
Class Test			x	

Internal viva	x	x	x	x
End Semester External viva	x	x	x	x
Feedback Process:	Mid-Semester Feedback			
	End-Semester Feedback			
Main reference	1. Shipley, K. G., & McAfee, J. G. (2016). Assessment in speech-language pathology: A resource manual (5th ed.). Australia; Clifton Park, NY: Delmar Learning. 2. Duffy, J. R. (2013). *Motor speech disorders: Substrates, differential diagnosis, and management*. St. Louis, MO: Elsevier. 3. Dysphagia following stroke (3rd edition) Stephanie Daniels, Maggie Lee, and Kristen 2019			
Additional reference	1. Tomblin, J. B., Morris, H. L., & Spriestersbach, D. C. (Eds.). (1994). Diagnosis in Speech-Language Pathology. Singular Publishing Group.			

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Clinical in Audiology**
Course Code	**ASL3232**
Academic Year	Third year
Semester	VI
Number of Credits	3
Course Prerequisite	Students should have knowledge regarding amplification and rehabilitation of hearing impaired children, noise and its measurement.
Course Synopsis	This module will enable the students to give appropriate treatment options specifically AVT in detail. They will also be able to do mapping and trouble shooting of hearing aids and cochlear implants along with noise surveys and hearing conservation.

Course Outcomes (COs): At the end of the course student shall be able to:

CO1	Understand the standards of noise exposure, perform noise survey and hearing conservation program. (C3, P4)
CO2	Recommend appropriate treatment options for hearing impaired. Demonstrate AVT and auditory training on children with hearing impairment. (C3, P5, A5)
CO3	Demonstrate mapping and trouble shooting of cochlear implants in infants and children. (C3, P5)
CO4	Analyze and perform objective responses like compound action potential, stapedial reflexes. (C3, P4)
CO5	Demonstrate trouble shooting and fine tuning of hearing aids on geriatric clients. (C3, P5)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1	x	x						
CO2					x	x		
CO3		x					x	
CO4		x				x		
CO5	x	x						

Course Content and Outcomes:

Content	Competencies	Number of Hours
Know:	Compare National and international standards related to noise exposure (C2, P4) Plan appropriate treatment options such as speech reading, AVT, combined approaches etc. (C3, P5)	4
Know how:	Organize and perform noise survey in Industry and community (C3, P4) Demonstrate mapping of cochlear implant in infants and children using both objective and subjective	7

Content	Competencies	Number of Hours
	procedures (C3, P5) Demonstrate trouble shooting cochlear implant (C3, P5)	
Show:	Analyse and perform objective responses like compound action potential, stapedial reflexes on at least 3 samples (C3, P4) Demonstrate comprehensive hearing conservation program for at least 1 situation (C3, P5, A3)	6
Do:	Demonstrate AVT on at least 1 child with hearing impairment (C3, P5, A5) Make use of trouble shooting and fine tuning of hearing aids on at least 5 geriatric clients (C3, P5) Demonstrate at least one activity for different stages involved in auditory training (C3, P5, A5)	13

Learning Strategies, Contact Hours and Student Learning Time (SLT)					
Learning Strategies	**Contact Hours**	**Student Learning Time (SLT)**			
Clinic	105	-			
Practical	30	90			
Total	**135**	**90**			
Assessment Methods:					
Formative	**Summative**				
Practical / Record book	End Semester External (Clinical Viva)				
Assignments					
Internal Viva (clinical)					
Mapping of Assessment with COs:					
Nature of Assessment	**CO1**	**CO2**	**CO3**	**CO4**	**CO5**
Assignments	x	x	x	x	x
Practical / Record Book	x	x	x	x	x
Internal Viva	x	x	x	x	x
End Semester Viva	x	x	x	x	x
Feedback Process:	Mid-Semester Feedback				
	End-Semester Feedback				
Main reference	Estabrooks, W., MacIver-Lux, K., & Rhoades, E. A. (Eds.). (2016). *Auditory-Verbal Therapy: For Young Children with Hearing Loss and Their Families, and the Practitioners Who Guide Them*. Plural Publishing. Tye-Murray, N., (2014) Foundations of Aural Rehabilitation: Children , adults and their family members 4th edition Plural Publishing San Diego Hull, R. H., (2014) ed. Introduction to Aural Rehabilitation 2nd edition Plural Publishing, San Diego Chapters 1, 2, 11 to 20				
Additional reference	Sataloff, R. T., & Sataloff, J. (2006). *Occupational hearing loss*. CRC Press. www.cochlear.com				

SEMESTER VII & VIII

INTERNSHIP

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Internship - Speech Language Pathology (SLP)**
Course Code	**ASL4131; ASL4231**
Academic Year	Fourth year
Semester	VII and VIII
Number of Credits	9 + 9 credits
Course Prerequisite	Students should have the knowledge of basic anatomy and physiology and neurology related to speech and hearing. Students should also have knowledge of assessment and intervention of speech and language disorders across life span.
Course Synopsis	This clinical internship would provide clinical exposure and experience in varied clinical population. It would also provide an opportunity for working in different set ups and contexts.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Perform diagnosis and manage different communication disorders across life span independently (P4)
CO2	Demonstrate competence and independence in performing various clinical Speech Language pathology procedures (P5)
CO3	Make appropriate referrals, counsel and liaise with other professionals (P5, A3)
CO4	Create and maintain record keeping for various communication disorders and stock inventory. Learn the importance of effective communication, team work, ethical values and professionalism (C3, P4)
CO5	Display entrepreneurship, leadership and mentorship skills to practice independently as well as in collaboration with the interdisciplinary health care team (P3)
CO6	Engage in community related services such as camps, awareness programs, and community based rehabilitation activities. (P3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1			x	x				
CO2		x				x		
CO3			x		x			
CO4	x			x				
CO5			x					x
CO6		x	x					

Course Content and Outcomes:

Content	**Competencies**
Area 1: Speech and Swallowing Disorders – Assessment and Management	
1. To set speech and swallowing lab for daily clinical activities (P2) 2. To take required patient history (P5, A3) 3. To identify and use appropriate diagnostic tools (P4, A2)	

Content	Competencies
4. To conduct diagnostic procedures as per standard operating procedures (P4, A3) 5. To counsel and explore management options (P3, A4) 6. To develop therapy goals for speech and swallowing disorders (P5, A3) 7. To conduct therapeutic procedures as per standard operating procedures (P5, A3) 8. To create documentation and maintain record keeping (P4) 9. To make appropriate referrals, counsel and liaise with other professionals (P5, A3) 10. To conduct screening and awareness camps for various speech disorders at the community level (P5, A2)	
Area 2: Language disorders– Assessment and Management	
1. To set language lab for daily clinical activities (P2) 2. To take required patient history (P5, A3) 3. To identify and use appropriate diagnostic tools (P4, A2) 4. To conduct diagnostic procedures as per standard operating procedures (P4, A3) 5. To counsel and explore management options (P3, A4) 6. To develop therapy goals for language disorders (P5, A3) 7. To conduct therapeutic procedures as per standard operating procedures (P5, A3) 8. To create documentation and maintain record keeping (P4) 9. To make appropriate referrals, counsel and liaise with other professionals (P5, A3) 10. To conduct screening and awareness camps for various language disorders at the community level (P5, A2)	
Learning Strategies: Small group discussion (SGD), Clinics, Case based discussion, Problem based learning	
Formative Assessment: Clinical Log Book, Assignments, Material Development **Summative Assessment (External):** Interns will be evaluated at the end of their internship duration (10 months) for 100 marks.	

Name of the Department	Speech and Hearing / Audiology and Speech Language Pathology
Name of the Program	Bachelor of Audiology and Speech - Language Pathology
Course Title	**Internship - Audiology**
Course Code	**ASL4132; ASL4232**
Academic Year	Fourth year
Semester	VII and VIII
Number of Credits	9+9 credits
Course Prerequisite	Students should have the knowledge of basic anatomy and physiology and neurology related to speech and hearing. Students should also have knowledge of diagnostic and rehabilitative audiology across life span.
Course Synopsis	This clinical internship would provide clinical exposure and experience in varied clinical population. It would also provide an opportunity for working in different set ups and contexts.

Course Outcomes (COs): At the end of the course student shall be able to:	
CO1	Perform diagnosis and manage different audiological disorders across life span independently (P4)
CO2	Demonstrate competence and independence in performing various clinical Audiology procedures (P5)
CO3	Make appropriate referrals, counsel and liaise with other professionals (P5, A3)
CO4	Create and maintain record keeping for various audiological disorders and stock inventory. Learn the importance of effective communication, team work, ethical values and professionalism (C3, P4)
CO5	Display entrepreneurship, leadership and mentorship skills to practice independently as well as in collaboration with the interdisciplinary health care team (P3)
CO6	Engage in community related services such as camps, awareness programs, and community based rehabilitation activities. (P3)

Mapping of Course Outcomes (COs) to Program Outcomes (POs):

COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**
CO1			x	x				
CO2		x				x		
CO3			x		x			
CO4	x			x				
CO5			x					x
CO6		x	x					

Course Content and Outcomes:

Content	**Competencies**
Area 1: Audiology- Diagnosis	
1. To set audiology lab for daily clinical activities (P2) 2. To perform daily listening check and calibration for audiological equipment (P4) 3. To take required patient history for the procedure (P5, A3)	

Content	Competencies
4. To use appropriate audiological evaluation procedure (P4, A2) 5. To create documentation and maintain record keeping (P4) 6. To make appropriate referrals, counsel and liaise with other professionals (P5, A3) 7. To conduct screening and awareness camps for various audiological disorders at the community level (P5, A2)	
Area 2: Audiology – Management	
1. To set audiology lab for daily clinical activities (P2) 2. To use appropriate audiological management procedure (P4, A2) 3. To advise and fit appropriate amplification aids and devices (P4, A3) 4. To develop therapy goals for auditory training (P4, A3) 5. To conduct auditory training and management (P4, A3) 6. To create documentation and maintain record keeping (P4) 7. To make appropriate referrals, counsel and liaise with other professionals (P5, A3) 8. To conduct camps for hearing impaired people who are in need of amplification devices at the community level (P5, A2)	
Learning Strategies: Small group discussion (SGD), Clinics, Case based discussion, Problem based learning	
Formative Assessment: Clinical Log Book, Assignments, Material Development **Summative Assessment (External):** Interns will be evaluated at the end of their internship duration (10 months) for 100 marks.	

7. Program Outcomes (POs) and Course Outcomes (COs) Mapping

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
I	ASL1101	Communication Science: Part A- Speech Language Pathology; Part B - Audiology	4	CO1 CO2 CO3 CO4 CO5 CO6			CO6	CO3 CO5			
I	ASL1102	Anatomy and Physiology of Speech and Hearing	4	CO1 CO2							
I	ASL1103	Audiology	4	CO1 CO2 CO3 CO4 CO5	CO1 CO2 CO3 CO4 CO5						
I	ASL1104	Linguistics & Phonetics	4	CO1 CO2 CO3 CO4 CO5 CO6	CO2 CO6						
I	ASL1105	Electronics	4	CO1 CO2 CO3 CO4 CO5							
I	ASL1106	Speech Language Pathology	4	CO1 CO2 CO3 CO4 CO5 CO6 CO7 CO8		CO1 CO3 CO4 CO5 CO7	CO6	CO8			

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
II	BST3202	Biostatistics and Research Methodology	4	CO1 CO2 CO3 CO5 CO6	CO4						
II	CPY2202	Clinical Psychology	4	CO1 CO4 CO5 CO6					CO2 CO3 CO5 CO6	CO1 CO2 CO3	
II	CSK1001	Communication Skills	2		CO3	CO4		CO1 CO2		CO1 CO2 CO3 CO4	

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
II	EIC1001	Environmental Sciences	1	CO1 CO2 CO3		CO4 CO5	CO2		CO1 CO3 CO5	CO4	
		Indian Constitution	1	CO1		CO3	CO2 CO5	CO2	CO4	CO1 CO3 CO5	CO4
II	ASL1201	Neurology	4	CO1 CO2 CO3 CO4 CO5	CO2 CO3 CO4 CO5						
II	ASL1202	Otolaryngology	4	CO1 CO2 CO3 CO4 CO5							
II	ASL1231	Clinical in Speech-Language Pathology	3	CO1 CO2	CO3						
II	ASL1232	Clinical in Audiology	3	CO1	CO2 CO3	CO3					

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
III	ASL2121	Voice and its Disorders	4	CO1	CO1	CO2	CO2 CO3 CO4	CO3 CO4			
III	ASL2122	Speech Sound Disorders	4	CO1 CO2 CO3	CO4 CO5				CO4 CO5	CO1 CO2 CO3	
III	ASL2123	Diagnostic Audiology: Behavioural Tests	4	CO1 CO2	CO2 CO3 CO4 CO5	CO5					
III	ASL2124	Amplification Devices	4	CO1 CO2 CO3 CO4 CO5 CO6	CO2 CO3 CO4 CO5			CO6			
III	ASL2131	Clinical in Speech Language Pathology	3	CO1 CO2 CO4	CO1 CO2 CO3 CO4 CO5		CO3	CO5			
III	ASL2132	Clinical in Audiology	4	CO1 CO3 CO4	CO1 CO2 CO3 CO4				CO2		
III	*** ****	Open Elective I	3	*Open elective is credited, choice-based and is graded as satisfactory / not satisfactory (S/NS). Students make a choice from pool of electives offered by MAHE institution / Online courses as approved by the department*							

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
IV	ASL2221	Motor Speech Disorders in Children	4	CO1 CO2	CO2 CO3 CO4 CO5	CO3			CO4 CO5		
IV	ASL2222	Language Disorders in Children	4		CO1 CO2 CO3	CO4		CO4	CO1 CO2 CO3		
IV	ASL2223	Diagnostic Audiology: Physiological Tests	4	CO1 CO2	CO2 CO3						
IV	ASL2224	Implantable Hearing Devices	4	CO1 CO2 CO3 CO4 CO5	CO2 CO3 CO4			CO5			
IV	ASL2231	Clinical in Speech-Language Pathology	4	CO1 CO2	CO1 CO2 CO3 CO4		CO3 CO4				
IV	ASL2232	Clinical in Audiology	3	CO2	CO1 CO2 CO3 CO4			CO4	CO1 CO3		

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
V	ASL3121	Structural Anomalies and Speech Disorders	4	CO1	CO2	CO2		CO3	CO3		
V	ASL3122	Fluency and its Disorders	4	CO1 CO2	CO2 CO3 CO4			CO3	CO4		
V	ASL3123	Paediatric Audiology	4	CO1 CO2	CO2 CO3 CO4 CO5		CO3		CO4 CO5	CO1	
V	ASL3124	Aural Rehabilitation in children	4	CO1 CO3 CO4 CO5	CO1 CO2 CO3 CO4						
V	ASL3131	Clinical in Speech-Language Pathology	3	CO1	CO2 CO4	CO3	CO2 CO4	CO3			
V	ASL3132	Clinical in Audiology	4	CO1 CO3	CO2 CO3 CO4			CO2 CO4			

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
V	OPE301*	Open Elective II	3	*Open elective is credited, choice-based and is graded as satisfactory / not satisfactory (S/NS). Students make a choice from pool of electives offered by MAHE institution / Online courses as approved by the department*							

Sem.	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
VI	ASL3221	Motor Speech Disorders in Adults	4	CO1 CO2	CO1 CO2 CO3 CO4				CO3 CO4		
VI	ASL3222	Language Disorders in Adults	4	CO1 CO2	CO1 CO2			CO3 CO4	CO3 CO4		
VI	ASL3223	Aural Rehabilitation in Adults	4	CO1 CO2	CO1 CO2 CO4 CO5 CO6	CO3 CO4 CO5 CO6	CO3				
VI	ASL3224	Audiology in Practice	4	CO1 CO2 CO5	CO5	CO2	CO1 CO4	CO3 CO6	CO6	CO3	CO4
VI	ASL3231	Clinical in Speech-language Pathology	4	CO1	CO2	CO3	CO1 CO2 CO3 CO4	CO4			
VI	ASL3232	Clinical in Audiology	3	CO1 CO5	CO1 CO3 CO4 CO5			CO2	CO2 CO4	CO3	

Sem	Course Code	Course Title	Credits	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
VII	ASL4131	Internship - Speech Language Pathology (SLP)	9	CO4	CO2 CO6	CO1 CO3 CO5 CO6	CO1 CO4	CO3	CO2		CO5
VII	ASL4132	Internship – Audiology	9	CO4	CO2 CO6	CO1 CO3 CO5 CO6	CO1 CO4	CO3	CO2		CO5
VIII	ASL4231	Internship - Speech Language Pathology (SLP)	9	CO4	CO2, CO6	CO1 CO3 CO5, CO6	CO1 CO4	CO3	CO2		CO5
VIII	ASL4232	Internship – Audiology	9	CO4	CO2 CO6	CO1 CO3 CO5 CO6	CO1 CO4	CO3	CO2		CO5

8. PROGRAM REGULATIONS

1. Program Structure

1.1. The program is a choice based credit system.
1.2. The program is accredited by Rehabilitation Council of India
1.3. An academic year consists of two semesters – Odd semester (July - December) and Even semester (January – June)
1.4. Each semester shall extend over a minimum up to 15 weeks of academic delivery excluding examination days, semester breaks, declared holidays and non-academic events.
1.5. Medium of instruction shall be in English

2. Credit Distribution

2.1 Each semester would consist of 20 credits.
2.2 The credit distribution hours for Lecture, Tutorial, Practical, and Clinics are as follows:
Lecture (L) : 1 Hour /week = 1 credit = 15 hours
Tutorial (T) / Practical (P) : 1 Hour /week = 1 credit
Clinics (CL) : 3 Hours/week = 1 credit
2.3 A semester has courses structured as theory, theory & practical, and clinics.
2.4 The maximum credits for theory and clinical course is 4.
2.5 Internship is credited.
2.6 Abbreviations / Symbols used in the credit distribution table:
L - Lectures, T - Tutorials, P -Practical, CL - Clinics, C - Total credits, IAC - Internal assessment component, ESE - End-Semester Exam, * Open Electives

3. Weightage for Internal Assessment Component (IAC) and End Semester Exam (ESE)

3.1. Any one or a combination of marks distribution criteria applicable to a course.

IAC Weightage (%)	ESE Weightage (%)
25	75
50	50
100	Nil
Nil	100

3.2 The IAC component weightage for theory & practical is:
- 50% from Mid-semester examination
- 50% through Continuous assessment (as applicable to course)

3.3 For courses without continuous evaluation components, two sessional exams are conducted and the average of both sessional exams shall be considered as the final IAC.

4. Attendance

4.1 Minimum attendance requirements for each course is:
i. Theory : 80 %
ii. Clinics / Practical : 90 %
4.2 As per the directives of MAHE, there will be no consideration for leave on medical grounds. The student will have to adjust the same in the minimum prescribed attendance. No leverage will be given by the department for any attendance shortage.

4.3 Students requiring **leave** during the academic session should apply for the same through a formal application to the Head of Department through their respective Class In-charge/ Coordinator. The leave will be considered as absent and reflected in their attendance requirements.

4.4 No leverage will be given by the department for any attendance shortage.

4.5 Students, Parents/ guardians can access the attendance status online periodically. Separate intimation regarding attendance status would not be sent to parents/students.

4.6 Students having attendance shortage in any course (theory & practical) will not be permitted to appear for the End-semester exam of the respective course.

5. Examination

5.1 Exams are in two forms – Sessional examination (conducted as a part of internal assessment) and End semester examination.

5.2 The final evaluation for each course shall be based on Internal Assessment Components (**IAC**) and the End-semester examinations **(ESE)** based on the weightage (as indicated in clause 3.1) given for respective courses.

5.3 IAC shall be done on the basis of a continuous evaluation after assessing the performance of the student in mid semester exam, class participation, assignments, seminars or any other component as applicable to a course (as indicated in clause 3.2).

5.4 All the ESE for the odd semesters **(regular ESE)** will be conducted in November-December. All the ESE for the even semesters **(regular ESE)** will be conducted in May-June.

5.5 For those whose failed to clear any course during regular ESE, a **supplementary exam** is conducted 2 weeks immediately after the ESE result declaration to enable him / her to earn those lost credits. When a student appears for supplementary examination, the **maximum grade awarded is "C" grade** or below irrespective of their performance.

5.6 For core courses, the duration of ESE for a 2 credit course would be 2 hours (50 marks) and for a course with 3 or more credits, 3 hours (100 marks).

5.7 For non-core courses such as Communication skills, Open electives, Indian constitution, Environmental sciences or courses as specified in curriculum, only internal assessment is conducted. For other non-core courses such as Linguistics & phonetics, Otolaryngology, Basic statistics and research methodology, Psychology, Electronics & acoustics, the ESE would be conducted.

6. Minimum Requirements for Pass

6.1. Pass in a course will be reflected as grades. No candidate shall be declared to have passed in any course unless he/she obtains not less than **"E" grade**

6.2. For core courses (theory / practical / clinical), candidate should obtain a minimum of 50% (IAC) + 50% (ESE) to be declared as pass.

6.3. For non-core courses, a candidate should secure a minimum of 40% in ESE to be declared as pass.

6.4. For students who fail to secure a minimum of 'E' grade for a course, an **improvement examination** is conducted to improve their IAC marks. The student can appear for these examination along with the subsequent batches' mid semester / sessional exams. The marks obtained in other components of IAC can be carried forward without reassessment.

7. **Calculation of GPA and CGPA**

7.1. Evaluation and Grading (**Relative Grading**) of students shall be based on GPA (Grade Point Average) & CGPA (Cumulative Grade Point Average).

7.2. The overall performance of a student in each semester is indicated by the Grade Point Average (GPA). The overall performance of the student for the entire program is indicated by the Cumulative Grade Point Average (CGPA).

7.3. A ten (10) point grading system **(credit value)** is used for awarding a letter grade in each course.

Letter Grade	A+	A	B	C	D	E	F/I/DT
Grade points	10	9	8	7	6	5	0

DT – Detained/Attendance shortage, I – Incomplete

7.4 Calculation of GPA & CGPA: An example is provided

Course code	**Course**	**Credits (a)**	**Grade obtained by the student**	**Credit value (b)**	**Grade Points (a x b)**
AHS 101	Course - 1	4	B	8	32
AHS 103	Course - 2	4	B	8	32
AHS 105	Course - 3	3	A+	10	30
AHS 107	Course - 4	4	C	7	28
AHS 109	Course - 5	5	A	9	45
	TOTAL	**20**	**-**	**-**	**167**

1st Semester GPA = Total grade points / total credits
167/20 = **8.35**

Suppose in **2nd semester GPA** = **7** with respective course credit 25

Then, $\mathbf{1st\ Year\ CGPA} = \frac{(8.35 \text{ x } 20) \ + \ (7 \text{ x } 25)}{20 \ + \ 25} = 7.6$

8. Progression Criteria to higher semesters

8.1 The eligibility for promotion to the next academic year is subject to securing the minimum academic performance as specified below:

- First to second year: a minimum of 70% of the credits at the end of the first year (includes first and second semester)
- Second to third year: a cumulative minimum of 80% of the credits at the end of the second year (includes first, second, third and fourth semester)
- Third year to Internship/externship: Student will be eligible for internship/externship only after successful completion of the entire course work, i.e. 100% credits to be accrued by the end of the third year.

8.2 First year students who have failed to secure a minimum credit (as specified in 8.1), will be on **probation for next one year.** During that period, he / she will not be permitted to attend the second year / III semester classes and have to appear only for exam (during December / May) in order to acquire the missing credits. In the event of failure to acquire the required credits even by the end of second year (70%), he / she has to **exit the program**. Exit from the program is applicable only for first year students failing to acquire the required credits.

8.3 From second year onwards, in the event of failing to acquire required credits (80% or 90%), the students will be on probation. During that period, he / she will not be permitted to attend the classes and have to appear only for exam (during December / May) in order to acquire the missing credits. From second year onwards, failure to acquire the required credits by the end of subsequent year will not result in exit from program.

8.4 However, the student must complete all the course work requirements and credits by a **maximum of double the program duration**. For e.g. 4 years' program, all the academic course work needs to be completed within 8 years. Failure to do so will result in exit from the program.

9. Semester Break

9.1 Students will have a semester break following their odd and even end-semester examinations.

10. Internship

10.1 Internship will carry credits and marks

10.2 Interns will be evaluated at the end of their internship duration (10 months) for 200 marks. The ESE mark is used for calculation of GPA and overall CGPA.

10.3 Any other components/ activities that is as a part of internship will be evaluated and graded at the end of each posting, without reflecting it in the CGPA.

10.3 An internship certificate with details of clinical/relevant areas of postings with hours will be issued to a candidate on completion of the Internship. The certificate must be authenticated by the HOD/Coordinator and HOI.

10.4 **Degree is awarded** only on successful completion of internship.

Head of the Department **Dean**

Deputy Registrar - Academics **Registrar**