**KARNATAK UNIVERSITY, DHARWAD**

# 04 - Year BASLP Program

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**SYLLABUS**

**Bachelor in Audiology and Speech Language Pathology (B.ASLP)**

**Internship Embedded Degree Programme**

**[Effective from 2024-25]**

**DISCIPLINE SPECIFIC CORE COURSE (DSCC) FOR SEM I to VIII,**

**OPEN ELECTIVE COURSE (OEC) FOR SEM I to VIII and**

**SKILL ENHANCEMENT COURSE (SEC) FOR SEM I to VIII**

**As per NEP (Revised): 2024**

# Karnatak University, Dharwad

Four Years undergraduate Program in Bachelor in Audiology and Speech-Language Pathology (B.ASLP)

| Sem No. | Course Code | Theory / Practical | Instruction per week | Total hours of Syllabus / Sem | Duration of Exam | Credit | Marks | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | IA | SEE | Total |
| I | M 1 BLP 1 T 1 | Communication sciences speech & language | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 1 BLP 1 T 2 | Communication sciences audiology | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 1 BLP 1 T 3 | Linguistics and phonetics | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 1 BLP 1 P 4 | Clinicals speech language pathology | 3 | 45 | 2 | 2 | 10 | 40 | 50 |
| | M 1 BLP 1 P 5 | Clinical -Audiology | 3 | 45 | 2 | 2 | 10 | 40 | 50 |
| | AECC-1.1 | L1- Kannada/Hindi | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | AECC -1.2 | L2- English | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | C1 | Constitutional values-1 | 2 | 30 | 2 | 2 | 10 | 40 | 50 |
| **Total credits** | | | | | | **24** | | | |
| II | M 2 BLP 1 T1 | Speech language pathology assessment & management | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 2 BLP 1 T 2 | Audiological evaluation | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 2 BLP 1 T 3 | Electronics & acoustics | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 2 BLP 1 P 4 | Clinical -Speech language pathology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | M 2 BLP 1 P 5 | Clinical –Audiology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | AECC-2.1 | L1- Kannada/Hindi | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | AECC -2.2 | L2- English | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | C2 | Constitutional values-2 | 2 | 30 | 2 | 2 | 10 | 40 | 50 |
| **Total credits** | | | | | | **24** | | | |
| III | M 3BLP 1 T 1 | Voice and its disorders | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 3 BLP 1 T 2 | Speech sound disorders | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | M 3 BLP 1 T 3 | Diagnostic audiology-behavioral tests | 4 | 60 | 3 | 4 | 20 | 80 | 100 |

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|---|---|---|---|---|---|---|---|---|---|
| | M 3 BLP 1 T4 | Clinical psychology | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | M 3 BLP 1 P 5 | Clinical -speech language pathology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | M 3 BLP 1 P 6 | Clinical -Audiology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | AECC-3.1 | L1- Kannada/Hindi | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | AECC -3.2 | L2- English | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| **Total Credits** | | | | | | **24** | | | |
| IV | M 4 BLP 1 T 1 | Fluency and its disorders | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 4 BLP 1 T 2 | Structural anomalies & speech disorders | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | M 4 BLP 1 T 3 | Diagnostic audiology – physiological tests | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 4 BLP 1 T4 | Pediatric Audiology | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | M 4 BLP 1 P 5 | Clinical -Speech language pathology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | M 4 BLP 1P 6 | Clinical -Audiology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | AECC-4.1 | L1- Kannada/Hindi | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | AECC -4.2 | L2- English | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| **Total credits** | | | | | | **24** | | | |
| V | M 5 BLP 1 T 1 | Motor speech disorders in children | 4 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 5 BLP 1 T 2 | Child language disorders | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | M 5 BLP 1 T 3 | Amplification devices | 3 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 5 BLP 1 T4 | Rehabilitative Audiology | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | M 5 BLP 1 P 5 | Clinical -Speech language pathology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | M 5 BLP 1 P 6 | Clinical -Audiology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | C4 | Research methods & statistics | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | Any one: M 5 BLP 1 T 8 | Otolaryngology | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | Any one: M 5 BLP 1 T 9 | Neurology | 3 | 45 | 3 | 3 | 20 | 80 | 100 |

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| **Total credits** | | | | | | **24** | | | |
| VI | M 6 BLP 1 T 1 | Motor speech disorders in adults | 3 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 6 BLP 6 T 2 | Language disorders in adults | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | M 6 BLP 6 T 3 | Implantable devices | 3 | 60 | 3 | 4 | 20 | 80 | 100 |
| | M 6 BLP 6 T4 | Environmental Audiology | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | M 6 BLP 6 P 5 | Clinical -Speech language pathology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | M 6 BLP 6 P 6 | Clinical -Audiology | 9 | 140 | 2 | 2 | 10 | 40 | 50 |
| | Any one M 6 BLP 1 T 7 | Speech language pathology and audiology in practice | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| | Any one M 6 BLP 1 T 8 | Educational audiology | 3 | 45 | 3 | 3 | 20 | 80 | 100 |
| **Total credits** | | | | | | **21** | | | |
| INTERNSHIP | **Course Code** | **Theory / Practical** | **Instruction per week** | **Total hours of Syllabus / Sem** | | **Credits** | **IA + SEE** | | **Total Marks** |
| VII | M 7 BLP 9P 1 | Clinical -Speech language pathology | 18 | 90 | | 11 | 200 | | 200 |
| | M 7 BLP 9P 2 | Clinical -Audiology | 18 | 90 | | 11 | 200 | | 200 |
| **Total credits** | | | | | | **22** | | | |
| VIII | M 8 BLP 9P 1 | Clinical -Speech language pathology | 18 | 90 | | 11 | 200 | | 200 |
| | M 8 BLP 9 P 2 | Clinical -Audiology | 18 | 90 | | 11 | 200 | | 200 |
| **Total credits** | | | | | | **22** | | | |
| **TOTAL CREDITS** | | | | | | **185** | | | |

**BASLP Semester –I**

**The course Bachelor in Audiology and Speech- Language Pathology in I semester has eight papers (Theory Paper –6 for 20 credits & Practical-2 for 4 credits) for 24 credits: All the papers are compulsory. Details of the courses are as under.**

## Communication Sciences: Speech and Language: M1BLP 1 T 1

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-1 | Theory | 04 | 04 | 60 hours | 3 hours | 20 | 80 | 100 |

**Course Outcome (CO):**

After completion of course (Theory), students will be able to:

**CO 1 :** Human Communication and processes involved
**CO 2 :** language and linguistic aspect aspects of communication
**CO 3 :** development of speech and language and communication skills
**CO 4** : basic concepts and terminologies related to speech and hearing
**CO 5** : Basic Concepts Related to Incidence and Causative Factors
**CO 6** : Basic concepts in speech, hearing language and communication

| **Communication Sciences: Speech and Language:** M 1 BLP 1 T 1 | **Total Hours:60** |
|---|---|
| **Unit-I** | **10 hours** |
| Basic Concepts in Speech, Language and Communication-<br>1.1 Definitions of communication, speech, language and their components and functions<br>1.2 Distinctions and similarities between communication, speech, and language<br>1.3 Basic models, levels and modes, and functions of speech communication<br>1.4 Speech chain, biological foundations of speech and language including speech as an overlaid function.<br>1.5 Characteristics of speech- normal, clear, and abnormal<br>1.6 Bases of speech – anatomical, physiological, neurological, physical, aerodynamic, linguistic, psychological, and socio-cultural including genetic bases. | |
| **Unit-II** | **10 hours** |

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| Normal Developmental Aspects-.<br>2.1 Normal development of speech and language<br>2.2 Development of articulation<br>2.3 Development of voice<br>2.4 Development of fluency and prosody<br>2.5 Prerequisites for and factors affecting - speech and language development | |
| **Unit-III** | **10 hours** |
| **Basic Concepts Related to Incidence and Causative Factors-**<br>3.1 Definition: Speech-Language Pathology<br>3.2 History and development of the profession of SLP including Indian context<br>3.3 Role of Speech-Language Pathologists in various settings<br>3.4 Causes of speech and language disorders<br>3.5 Basic epidemiologic concepts and principles and data sources and measurements<br>3.6 Population at risk for hearing loss and communication delay – at-risk children, established risk children, high-risk checklist.<br>3.7 Incidence and prevalence of Speech-language and hearing disorders as per different census (NSSO, WHO, a different registry for various disorders, etc) | |
| **Unit-IV** | **10 hours** |
| Introduction to Speech-Language and Swallowing Disorders: Classification and Characteristics-<br>4.1 Voice disorders- based on Pitch, Loudness, and Quality of voice<br>4.2 Phonological disorders - misarticulation, apraxia, and dysarthria<br>4.3 Fluency disorders - stuttering, cluttering, neurogenic stuttering<br>4.4 Language disorders – aphasia in children and adults, cerebral palsy, specific language impairment, and hearing impairment, Autism spectrum disorders, Learning disability, Intellectual disability.<br>4.5 Feeding and swallowing disorders | |

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| **SECTION B** | |
| **Unit I** | |
| 1.1 Preliminaries – The anatomical position, body planes, general anatomical terms, directions and locations, common anatomical terms<br>1.2 Overview of the embryology of the speech mechanism<br>1.3 Respiratory system – anatomy of the lower airway (trachea, lungs), physiology of breathing, volumes, and capacities<br>1.4 Phonatory system – anatomy of the larynx, vocal folds, physiology of larynx, voice production.<br>1.5 Resonatory and articulatory systems – anatomy of the pharynx, oral cavity and | **10 hours** |

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| nasal cavity, physiology of resonatory and articulatory system – resonance and articulation. | |
| **Unit II: Anatomy and Physiology of Central Nervous System-** | |
| 2.1 Anatomy: parts of the brain (CNS, PNS), hemispheres, lobes.<br>2.2 Physiology: CNS and PNS, functions of different parts of the brain<br>2.3Cranial Nerves, cranial nerves important for speech & hearing functions<br>2.4 Overview of blood supply for brain and spinal cord | **10 hours** |

## BOOKS RECOMMENDED.

### SECTION A


1. Fogle, P.T. (2013). Essentials of communication sciences & disorders, Delmar, Cengage learning.
2. Anderson, N.B., & Shames, G.H. (2011). Human communication disorders, Pearson Education Inc, New Jersey.
3. Justice, L.M., &Redle, E, E. (2014). Communication sciences and disorders- A clinical evidence-based approach, Pearson education, Inc, USA.
4. Roeser, R. J., Pearson, D,W., & Tobey, E.E. (1998). Speech-Language Pathology, Desk reference, Theme, New York.
5. Gunter, C.D., & Koenig, M.A. (2011). Communication development and disorders for partners in service, Plural Publishing, San Diego.
6. Bordon, G J., Harris, K S., & Raphael, L J. (2006). Speech science primer: Physiology, acoustics, & perception of speech. Lippincott-Williams & Wilkins.
7. Speaks, C. E. (1999). Introduction To Sound: Acoustics for the Hearing and Speech Sciences (3 edition). San Diego: Cengage Learning.
8. Anderson, N.B., & Shames, G.H. (2011). Human communication disorders. Pearson Education, Inc, New Jersey.
9. Fogle, P.T. (2013). Essentials of communication sciences & disorders, Delmar, Cengage learning.
10. Justice, L.M., &Redle, E, E. (2014). Communication sciences and disorders- A clinical evidence-based approach, Pearson education, Inc, USA.
11. Roeser, R. J., Pearson, D,W., & Tobey, E.E. (1998). Speech-Language pathology desk reference, Theme, New York.
12. Gunter, C.D., & Koenig, M.A. (2011). Communication development and disorders for partners in service, Plural Publishing, San Diego.
13. Roseberry-McKibbin., & Hegde, M. N. (2011). An advanced review of Speech-Language pathology, 3rd edition, Pro-ed, Inc, Texas.
14. Rathna, N. (1993). Speech and Hearing in last 30 years. A publication of ISHA.
15. Status of disability in India. (2012). A publication by RCI, Crossway communication Pvt Ltd, New Delhi.
16. Manual for the training of PHC medical officers (2003). A publication by RCI, Grand print & process, New Delhi.
17. Anderson,N.B., & Shames, G.H. (2011). Human communication disorders. Pearson Education, Inc, New Jersey.
18. Gunter, C.D., & Koenig, M.A. (2011). Communication development and disorders for partners in

service, Plural Publishing, San Diego
19. Angell, C.A. (2010). Language development and disorders: A case study approach, Jones & Bartlett Publishers, LLC.
20. Anderson, N.B., & Shames, G.H. (2011). Human communication disorders. Pearson Education, Inc, New Jersey.
21. Roseberry-McKibbin., & Hegde, M. N. (2011). An advanced review of Speech-Language pathology, 3rd edition, Pro-ed, Inc, Texas.
22. Justice, L.M., &Redle, E, E. (2014). Communication sciences and disorders- A clinical evidence-based approach, Pearson education, Inc, USA.
23. Roeser, R. J., Pearson, D.W., & Tobey, E.E. (1998). Speech-Language pathology desk reference, Theme, New York.
24. Fogle, P.T. (2013). Essentials of communication sciences & disorders, Delmar, Cengage learning.
25. Justice, L.M., &Redle, E, E. (2014). Communication sciences and disorders- A clinical evidence-based approach, Pearson education, Inc, USA.
26. Fogle, P.T. (2013). Essentials of communication sciences & disorders, Delmar, Cengagelearning.
27. Justice, L.M., &Redle, E, E. (2014). Communication sciences and disorders- A clinical evidence-based approach, Pearson education, Inc, USA.
28. Roseberry-McKibbin., & Hegde, M. N. (2011). An advanced review of Speech-Language pathology, 3rd edition, Pro-ed, Inc, Texas.
29. Roeser, R. J., Pearson, D.W., & Tobey, E.E. (1998). Speech-Language pathology desk reference, Theme, New York.
30. Fogle, P.T. (2013). Essentials of communication sciences & disorders, Delmar, Cengage learning.
31. Justice, L.M., &Redle, E, E. (2014). Communication sciences and disorders- A clinical evidence-based approach, Pearson education, Inc, USA.
32. Shulman, G.H. et al. (1998). Human communication disorders – An introduction. 3rd Edn.Allyn& Bacon,Boston.
33. Hegde, M.N. (1994). A coursebook on aphasia and other neurogenic language disorders. Singular publishing group, San Diego.
34. Angell, C.A. (2010). Language development and disorders: A case study approach, Jones & Bartlett Publishers, LLC.
35. Roseberry-McKibbin., & Hegde, M. N. (2011). An advanced review of Speech-Language pathology, 3rd edition, Pro-ed, Inc, Texas.
36. Angell, C.A. (2010). Language development and disorders: A case study approach, Jones & Bartlett Publishers, LLC.

## SECTION B

1. Fuller, D. R., Pimentel, J. T., &Peregoy, B. M. (2012). Applied Anatomy and Physiology for Speech-Language Pathology & Audiology. Lippincott Williams & Wilkins, Baltimore,MD
2. Jones, S. M., & Jones, T. A. (2011). Genetics, Embryology, and Development of Auditory and Vestibular Systems. Plural Publishing, San Diego.
3. Seikel, J., King, D., & Drumright, D. (2015). Anatomy & Physiology for Speech, Language, and Hearing, V Edition. Cengage Learning
4. Zemlin, W. R. (1998). Speech and Hearing Science: Anatomy and Physiology.Allyn & Bacon,

Needham Heights, Massachusetts
5. Fuller, D. R., Pimentel, J. T., &Peregoy, B. M. (2012). Applied Anatomy and Physiology for Speech-Language Pathology & Audiology. Lippincott Williams & Wilkins, Baltimore, MD
6. Musiek, F. E., & Baran, J. A. (2007). The Auditory System: Anatomy, Physiology and Clinical Correlates. Pearson Education, Inc.
7. Plack, C. J. (2014). The sense of Hearing, II Edition. Psychology Press, New York
8. Culbertson, W. R., Cotton, S. S., & Tanner, D. C. (2006). Anatomy and Physiology Study Guide for Speech and Hearing. Plural Publishing, San Diego.
9. Rouse, M. H. (2016). Neuroanatomy for Speech-Language Pathology and Audiology. Jones & Bartlett Learning, LLC
10. Seikel, J., King, D., & Drumright, D. (2015). Anatomy & Physiology for Speech, Language, and Hearing, V Edition. Cengage Learning
11. Zemlin, W. R. (1998). Speech and Hearing Science: Anatomy and Physiology.
12. Allyn & Bacon, Needham Heights, Massachusett

# Communication Sciences: Audiology: M 1 BLP 1 T 2

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-2 | Theory | 04 | 04 | 60 hours | 3 hours | 20 | 80 | 100 |

**Course Outcome (CO):**

After completion of course (Theory), students will be able to:

**CO 1:** Gain knowledge about case history taking

**CO 2**: Basic concepts of hearing sensitivity and acoustics

**CO 3** **:** Historical aspects of audiology

**CO 4** : Gain Knowledge about early hearing tests

**CO 5** **:** Gain knowledge about properties of sounds

**CO 6** : Concept of dB and Threshold Measurements

**CO 7** : Basic Concepts Related to Incidence and Causative Factors

**CO 8** : basic concepts and terminologies related to hearing mechanism

**CO 9** : Gain knowledge about branches of audiology

| **Communication Sciences: Audiology:** M 1 BLP 1 T 2 | **Total Hours: 60** |
|---|---|
| **Unit-I: Historical Aspects and Case History** | **20 hours** |
| 1.1 Historical aspects<br>• History of audiology<br>• Medical and non-medical fields associated with audiology<br>• Development of Audiology in India<br>• Branches of Audiology<br>• Scope of audiology<br>1.2 Case history<br>• Need for the case history<br>• Essential factors to be included in the case history form<br>• Comparison of adults vs. children case history<br>• The usefulness of the case history<br>1.3 Early hearing tests<br>• Nature and properties of tuning fork<br>• Tuning fork tests: Qualitative tests – Rinne, Weber, and Bing<br>• Quantitative test: Schwabach<br>• Interpretation, advantages, and disadvantages<br>• The audiometric version of Weber and Bing test.<br>• Tuning fork tests findings in different degrees and types of hearing | |

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| loss. | |
| **Unit-II: Concept of dB and Threshold Measurements** | **10 hours** |
| 2.1 dB concept<br>• Different aspects of the dB<br>• Power and pressure formulae, zero dB reference for pressure and power<br>• Calculation of dB values from absolute values and vice-versa<br>• Calculation of overall dB when two signals are superimposed, hearing level, sensation level<br>• Application of dB<br>2.2 Threshold concept<br>• Threshold of audibility<br>• MAP and MAF<br>• Threshold of pain<br>• Application of MAP and MAF | |
| **Unit-III: Properties of Sound** | **10 hours** |
| 3.1 Frequency: Concept – frequency, octave frequency, Psychophysical correlates, Factors affecting pitch<br>3.2 Intensity: Concept, Psychophysical correlates: Phons and sones – relation between phons and sones, use of phon and sone graph, computation of relative loudness of two given sounds using these graphs.<br>3.3 Duration: Basic concept<br>3.4 Differential sensitivity for intensity, frequency, and duration. | |
| **Unit-IV: Anatomy and Physiology of Auditory System** | **10 hours** |
| 4.1 Overview of the embryology of the auditory mechanism<br>4.2 External ear – anatomy and physiology of the pinna, external auditory canal<br>4.3 Middle ear – anatomy of the tympanic membrane, ossicular chain, Eustachian tube, walls of the tympanic cavity, muscles, ligaments, and tendons. Physiology – transformer action of the middle ear. The function of the middle ear muscles and Eustachian tube.<br>4.4 Inner ear – Anatomy – parts of the inner ear – bony labyrinth and membranous labyrinth, cochlea, semicircular canals, utricles, saccule. Physiology of the cochlea, cochlear microphonics, summating potential theories of hearing in brief, modes of bone conduction, physiology of the SSC, utricles, and saccule.<br>4.5 Auditory pathway and central hearing mechanism: Anatomy of the afferent and efferent auditory pathway, action potential.<br>**Introduction to Hearing Disorders: Classification and Characteristics-**<br>4.6 Different types of hearing loss, general characteristics of conductive, mixed, and sensorineural hearing loss<br>4.7 Classification of causes of hearing loss. Causes of hearing impairment: hereditary hearing loss, congenital hearing loss, acquired hearing loss in | **10 hours** |

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| children and adults, causes of central auditory disorders. | |

**References**


1. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology (12th edition). Boston: Pearson.
2. Gelfand, S. A. (2009). Hearing: An Introduction to Psychological and Physiological Acoustics (5 edition). London: CRC Press.
3. Zwicker E. Fastl H. "Psychoacoustics – Facts & Models" Springer – 1999
4. Palmer A.R. Rees A, Summerfield AQ Meddis K. Psychophysical and physiological advances in hearing – Whurr Publication 1998
5. Hanghton Piter "Acoustics for Audiologists" Academic Press 2002
6. Warren R.M 1999. Auditory Perception-A new Analysis and synthesis U Rosenthal DF & Okiano H G "Computational Auditory Scene Analysis" Lawrence Erlbaun Associates, Publishers 1998.
7. Yost "Directional Hearing" – Wiley 2000
8. Culbertson, W. R., Cotton, S. S., & Tanner, D. C. (2006). Anatomy and Physiology Study Guide for Speech and Hearing. Plural Publishing, San Diego.
9. Fuller, D. R., Pimentel, J. T., & Peregoy, B. M. (2012). Applied Anatomy and Physiology for Speech-Language Pathology & Audiology. Lippincott Williams & Wilkins, Baltimore, MD
10. Seikel, J., King, D., & Drumright, D. (2015). Anatomy & Physiology for Speech, Language, and Hearing, V Edition, Cengage Learning
11. Zemlin, W. R. (1998). Speech and Hearing Science: Anatomy and Physiology.
12. Allyn & Bacon, Needham Heights, Massachusetts

# Linguistics &Phonetics: M1 BLP 1 T 3

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-3 | Theory | 04 | 4 hours | 60 | 3 hours | 20 | 80 | 100 |

**Course Outcome (CO):**

After completion of course, students will be able to know:

**CO 1** **:** Language and Linguistics
**CO 2** Morphology, Syntax, Semantics, and Pragmatics
**CO 3** Phonetics and Phonology
**CO 4** Language acquisition and Language Learning
**CO 5**

| **Linguistics &Phonetics: M1** BLP 1 T 3 | **Total Hours: 60** |
|---|---|
| **Unit-I: Language and Linguistics** | **15 hours** |
| 1.1 Introduction to Language- Definition, Characteristics of language, Functions of language, Difference between animal communication systems and human language.<br>1.2 An introduction to the language families of India and language families of the world.<br>1.3 Writing systems– History of writing systems, Types of writing systems, Indian writing systems<br>1.4 Introduction to Linguistics – Definition, brief introduction to different branches of linguistics such as Sociolinguistics, Psycholinguistics, Neurolinguistics, and Clinical linguistics. Application of linguistics with special reference to communication disorders.<br>1.5 Transcription systems with special emphasis on International Phonetic Alphabet (IPA); Basic Transcription practices. | |
| **Unit-II: Morphology, Syntax, Semantics, and Pragmatics** | **15 hours** |
| 2.1 Morphology – concepts of morph, allomorph, morpheme, bound and free forms, roots, etc. Types of morphemes - inflection and derivation. Concept of word, content and function words, form classes, Processes of word formation, endocentric and exocentric constructions, grammatical categories, paradigmatic and syntagmatic relationship.<br>2.2 Syntax – Concept, Different methods of syntactic analysis – Immediate Constituent (IC) Analysis, Phrase Structure Grammar, Transformational Generative Grammar, Introduction to the major types of transformations. Types of Sentences, Notions of competence versus performance, deep structure versus surface structure, acceptability versus grammaticality, langue versus parole.<br>2.3 A brief introduction to Semantics - homonyms, synonyms, and antonyms, Semantic Feature Theory. | |

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| 2.4 A brief introduction to Pragmatics – discourse; intent of communication | |
| **Unit-III Phonetics and Phonology** | **15 hours** |
| 3.1 Introduction to Phonetics and its different branches – articulatory, acoustic, auditory, and experimental phonetics, air-stream mechanism, articulatory classification of sounds – segmentals and suprasegmentals, classification description, and recognition of vowels and consonants.<br>3.2 Introduction to Phonology, classification of speech sounds based on distinctive features; phonotactics; Principles and practices of phonemic analysis; common phonological processes like- assimilation, dissimilation, metathesis, haplology, epenthesis, spoonerism, vowel harmony, nasalization, neutralization | |
| **Unit-IV: Language Acquisition and Language Learning** | **15 hours** |
| 4.1 Issues in first language acquisition; Stages of language development - prelinguistic stage and linguistic stage, acquisition of phonology, acquisition of morphology, acquisition of syntax, acquisition of semantics, acquisition of pragmatics, language, and cognition.<br>4.2 Issues in second language acquisition; differences between first language acquisition and second language acquisition/learning. Bilingualism in children- compound, coordinate, simultaneous, successive<br>4.3 Inter-language theory, Language transfer & Linguistic interference; Factors influencing second language acquisition/learning. | |

**References**


1. Akmajian, Adrian; Demers, Richard; Farmer, Ann; Harnish, Robert (2010). Linguistics: An Introduction to Language and Communication. Cambridge, MA: The MIT Press.
2. Finch, Geoffrey. (2003). How to Study Linguistics. N.Y: Palgrave Macmillan.
3. O'Grady, William et al. (2005). Contemporary Linguistics: An Introduction (5th ed.). Bedford/St. Martin's.
4. Radford, A., Atkinson, R. M., Britain, D., Clahsen, H., Spencer, A. J.(1999). Linguistics: An Introduction, Cambridge University Press.
5. Yule, G. (2006): The study of language (Third edition). Cambridge: Cambridge
6. Clark and Yallop (1999). An introduction to phonetics and phonology.Oxford:Blackwell Publishers Inc.
7. Karanth, P (2003). A cross-Linguistic study of Acquired Reading Disorders. Sage Publications, New Delhi. ISBN: 0-306-48319-X
8. Abbi, Anvita. (2001). A Manual of Linguistic Field Work and Structures of Indian Languages. München: LINCOMEuropa.
9. Akmajian, Adrian; Demers, Richard; Farmer, Ann; Harnish, Robert (2010). Linguistics: An Introduction to Language and Communication. Cambridge, MA: The MIT Press.
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11. Yule, G. (2006): The study of language (Third edition). Cambridge: Cambridge University Press.
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# Clinical (Speech-Language Pathology): M1 BLP 1P4

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| **DSC-4** | Practical | 02 | 3 | 45 Hours | 10 | 40 | 50 |

**Course Outcome (CO):**

After completion of course (Practical), students will be able to:

**CO 1** : Gain knowledge about characteristics of normal speech
**CO 2** : Gain knowledge about characteristics of normal speech
**CO 3** : Gain knowledge about suprasegmental aspects of speech
**CO 4** : Gain knowledge about structure and functioning of normal speech mechanism
**CO 5** : Gain knowledge about normal speech and language milestones
**CO 6** : Gain knowledge about basic speech and language test materials

**List of the Experiments for 30 hours / Semesters**

1. Demonstrate normal aspects of speech and analyze perceptual variations in voice, articulation, and fluency in different recorded speech samples of typical individuals at different age groups (children, adults, and older adults) and sex.
2. Demonstrate normal aspects of language and analyze perceptual variations in the language in different recorded samples of typical individuals at different age groups (children, adults, and older adults) and sex.
3. Demonstrate stress, rhythm and intonation, and variations in the rate of speech and analyze perceptually variations in prosody in different recorded samples of typical individuals at different age groups (children, adults, and older adults) and sex.
4. Record a standard passage, count the number of syllables and words, identify syllable structure, syntactic structures in the passage.
5. Oral mechanism examination on 5 normal children and 5 normal adults.
6. Prepare a chart and show the developmental stages of speech and language behavior.
7. Administer standardized tests for assessment of delayed speech and language development such as REEL, SECS, LAT, 3DLAT, ALD each on any 2 children.
8. Study the available normative data (Indian/Western) of speech such as respiratory, phonatory, resonatory, and articulatory parameters.
9. Measure the following in 5 normal subjects:

(a) Habitual frequency

(b) Frequency range

(c) Intensity

(d) Intensity range

(e) Phonation duration

(f) Rate of speech

(g) Alternate Motion Rates and Sequential Motion Rates

(h) s/z ratio.

**Books recommended.**


1. Fogle, P.T. (2013). Essentials of communication sciences & disorders, Delmar, Cengagelearning.
2. Anderson, N.B., & Shames, G.H. (2011). Human communication disorders, Pearson Education Inc, New Jersey.
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## Clinical (Audiology): M1BLP 1P5

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/ Hours / Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| DSC- 5 | Practical | 02 | 3 | 45 Hours | 10 | 40 | 50 |

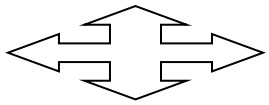
**Course Outcome (CO):**

After completion of course (Practical), students will be able to:

**CO 1** : Gain knowledge about characteristics of normal hearing mechanism
**CO 2** : Gain knowledge about basic audiometric tests
**CO 3** : Gain knowledge about case history taking
**CO 4** : Gain knowledge about tuning fork tests

**List of the Experiments for 30 hours / Semesters**

1. Measure most comfortable level on 10 participants with normal hearing sensitivity.
2. Measure uncomfortable levels on 10 participants with normal hearing sensitivity.
3. Calculate the sensation levels of MCL and UCLs in the above 10 participants.
4. Measure difference limen of intensity, frequency, and duration on 10 normal-hearing adults and plot it in graphical form and interpret the results.
5. Measure equal loudness level contours at a minimum level, 40 dB SPL, 70 dB SPL (1 kHz) in 5 normal-hearing adults.
6. Take case history on 5 adults and 5 children with a hearing problem and correlate the information from case history to results of pure tone audiometry.
7. Administer different tuning fork tests on 5 simulated conductive and 5 sensorineural hearing loss individuals.



**AECC1.1: Kannada/ Functional Kannada**

As per the University Guidelines

**AECC1.2: English**

As per the University Guidelines

| Formative Assessment for Theory | |
|---|---|
| **Assessment Occasion/ type** | **Marks** |
| Internal Assessment Test 1 | 05 |
| Internal Assessment Test 2 | 05 |
| Assignment | 10 |
| **Total** | **20 Marks** |
| ***Formative Assessment as per guidelines.*** | |

**GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSC/ EC/AECC**

**(80 marks for semester end Examination with 3 hours duration)**

**Part-A**

1. Question number 1-10 carries 2 marks each. Answer all questions : 20 marks

**Part-B**

**2.** Question number 11- 18 carries 5 Marks each. Answer any 6 questions : 30 marks

**Part-C**

**3.** Question number 19-22 carries 10 Marks each. Answer any 03 questions : 30 marks

(Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary

**Total : 80 Marks**

**Note: Proportionate weight age shall be given to each unit based on number of hours Prescribed**

## GENERAL PATTERN OF PRACTICAL EXAMINATION

## (40 marks for semester end Examination with 2 hours duration)

| Sl. No. | Domain | Marks |
|---|---|---|
| 1 | Accuracy | 10 |
| 2 | Skill | 10 |
| 3 | Graphs and Diagrams | 10 |
| 4 | Report Submission | 5 |
| 5 | Viva | 5 |
| **Total** | | **40** |

**B.ASLP- Semester –II**

**Discipline Specific Course (DSC)**

**The course Bachelor in Audiology and Speech- Language Pathology in II semester has 8 papers (Theory Paper –6 for 20 credits & Practical-2 for 4 credits) for 24 credits: All the papers are compulsory. Details of the courses are as under.**

## Speech-Language Pathology – Assessment and Management: M 2 BLP 1 T 1

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-6 | Theory | 04 | 4 hours | 60 | 3 hours | 20 | 80 | 100 |

**Course Outcome (CO):**

After completion of course (Theory), students will be able to:

CO 1 **:** Assessment procedure
CO 2 : Models
CO 3 : Treatment
CO 4 : Code of ethics
CO 5 : Counseling
CO 6

| **Unit-I: Overview of Procedures Involved in Speech-Language Diagnostics** | **15 hours** |
|---|---|
| 1.1 Case history – the need for the case history – essential factors to be included in the case history form – comparison of adults vs. children case history – the usefulness of the case history, Case history format for various communication disorders<br>1.2 Basic terminologies and concepts<br>1.3 Introduction to diagnostics, Classification of disorders: DSM, ICD, terminologies in the diagnostic process, general principles of diagnosis, diagnostic setup, and tools.<br>1.4 Characteristics of a diagnostic clinician<br>1.5 Diagnostic setup and tools | |
| **Unit-II: Diagnostic Models and Approaches** | **15 hours** |
| 2.1 Diagnostic models and their application to communication disorders – SLPM, Wepman, Bloom, and Lahey<br>2.2 Types of diagnoses: Concept, application and its relevance to communication disorder – Clinical diagnosis, direct diagnosis, differential diagnosis, diagnosis by treatment, diagnosis by exclusion, team diagnosis, instrumental diagnosis, provocative diagnosis, tentative | |

| | |
|---|---|
| diagnosis advantage/disadvantages | |
| **Unit-III Basic Concepts of Intervention and Procedures Involved in Speech-Language Therapy** | **15 hours** |
| 3.1 General principles of speech and language therapy<br>3.2 Models in Therapeutics and its application to Speech-Language Therapy: Medical model, Behavioural model, and Learning Models<br>3.3 Approaches to speech and language therapy – Formal, informal, and eclectic approaches; Behaviourist, Linguistic-Cognitive and Social interactionist approach<br>3.4 Strategies for speech and language therapy-Individual Specific and Developmental strategies<br>3.5 Speech therapy set-up<br>3.6 Individual and group therapy<br>3.7 Integrated and Inclusive Education<br>3.8 Tele practice and Apps | |
| **Unit-IV: Execution of Speech-Language Therapy, Documentation and Professional Codes** | **15 hours** |
| 4.1 Planning for speech and language therapy – goals, steps, procedures, activities<br>4.2 Techniques for Speech and language therapy for various disorders of speech and language in Children<br>4.3 Importance of behavioral principles in speech and language therapy<br>4.4 Counseling and Guidance -Facilitation of parent participation and transfer of skills<br>4.5 Documentation of clinical records<br>4.6 Evaluation of therapy outcome<br>4.7 Ethics in diagnosis and speech-language therapy<br>4.8 Self-appraisal of clinicians<br>4.9 Professional code of conduct for clinicians | |

**References**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2. Dodd, B. (2013). Differential diagnosis and treatment of children with speech disorder.(2nd Ed). NJ: Wiley.
3. Rout, N (Ed)., Gayathri, P., Keshree, N, and Chowdhury, K (2015). Phonics and Phonological Processing to Develop Literacy and Articulation; A Novel Protocol. A publication by NIEPMED, Chennai. Freely downloadable from http://niepmd.tn.nic.in/publication.php. ISBN 978-81- 928032-9-5
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2 and 3, 37-43, Pearson & Ab.
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14. Hegde, M.N. (1985). Treatment procedures in communicative disorders.Texas. Pro-Ed.
15. Roth.P.F., & Worthington,M.S. (1996) Treatment Resource Manual for Speech-Language Pathology, Unit 1, 1-40, Singular Publishing Inc.
16. Burrus,E.A., & Haynes, O.W (2009) Professional Communication in Speech-Language Pathology: How to Write, Walk and act like a Clinician, Unit 3 and 4, 41-55, Plural Publishing inc.
17. Beech.R.J., & Harding, L., & Jones,H.D. (1993) Assessment in Speech-Language Therapy, Unit 1 and 2, 1-35, Routledge

# Audiological Evaluation: M 2 BLP 1 T 2

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-7 | Theory | 04 | 04 | 60 hours | 3 hours | 20 | 80 | 100 |

**Course Outcome (CO):**

After completion of course (Practical), students will be able to:

**CO 1 : Gain Knowledge about Pure tone Audiometry**
**CO 2 : Gain Knowledge about Speech Audiometry**
**CO 3 : Gain Knowledge about clinical masking**
**CO 4 : Gain Knowledge about calibration**

| **Unit-I: Pure tone Audiometry** | **15 hours** |
|---|---|
| 1.1 Historical developments, Rationale, Classification of audiometers, Instrumentation, Components and parts of an audiometer, Different types of transducers, their performance and technical specifications – Headphones (such as TDH-39, TDH-49, TDH-50, HDA-200, HDA- 500), Bone vibrators (such as B71, B -72, KH 70 & A 20), Loudspeakers, Insert earphones (ER-3A, ER-5A), Microphones (Talk forward & Talkback), VU meter, Ear cushions.<br>1.2 Standards: National and International standards related to Pure tone Audiometry (ANSI, ISO, IEC, ASHA & IS/BIS), Permissible Ambient Noise levels in audiometric test rooms.<br>1.3 Audiogram, construction of audiogram, Symbols used, Interpretation of audiogram (degree, type & configuration), Usefulness of Audiogram<br>1.4 Bone conduction (BC) Audiometry: Importance, challenges in bone conduction testing<br>1.5 Methods to find threshold (AC & BC): Method of limits, Hughson &Westlake method, Modified Hughson Westlake Method, ASHA guidelines, ANSI guidelines<br>1.6 Factors affecting AC and BC threshold, Limitations of Pure-tone Audiometry | |
| **Unit-II :Speech Audiometry** | **15 hours** |
| 2.1 Historical developments, rationale, and objectives<br>2.2 Different types of speech tests - Speech detection threshold (SDT), Speech recognition threshold(SRT), speech identification scores (SIS) - Definition, Material used, Procedure for obtaining SDT, SRT, and SIS, Response mode and their clinical applications. BC Speech Audiometry<br>• Correlation between PTA and speech audiometry results<br>• PIPB function, Articulation Index,<br>• National and International standards related to Speech Audiometry (ANSI, ISO, IEC, ASHA &IS/BIS), | |

| | |
|---|---|
| 2.3 Factors affecting speech audiometry, Limitations of Speech Audiometry<br>2.4 Speech materials available in Indian languages and English for Speech Audiometry (SRT &SIS)<br>2.5 Loudness-based tests - MCL, UCL, Dynamic range - Definition, Materials used, Procedure, and Clinical Applications. | |
| **Unit-III : Clinical Masking** | **15 hours** |
| 3.1 Definition, Terminology related to masking: Test ear, non-test ear, masker, masked, cross over, cross hearing, shadow curve, and central masking.<br>3.2 Types of masking, Different types of stimuli used as maskers, Critical Band Concept.<br>3.3 Interaural attenuation (IA), factors affecting IA. Criteria for masking during AC, BC, and factors considered.<br>3.4 Factors determining the amount of masking noise- Minimum and Maximum effective masking level for AC and BC, speech.<br>3.5 Procedures for masking – Methods to find masked threshold and factors to be considered inadequate masking, Naunton's Dilemma, Rainville, SAL tests, and Fusion Inferred test (FIT) | |
| **Unit-IV: Calibration** | **15 hours** |
| 4.1 Calibration of audiometers:<br>• Subjective/real ear calibration methods for AC and BC<br>• Electro-acoustic/objective calibration of the output intensity of Puretone, NBN, WBN, and Speech noise through the headphones, insert receiver loudspeaker and bone vibrators and frequency calibration, free field speakers' calibration<br>4.2 Calibration of the speech stimulus<br>4.3 Daily listening checks, application of correction factors.<br>4.4. Artificial ear, Acoustic couplers, and Artificial mastoid | |

**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.).
3. Philadelphia: Lippincott Williams and Wilkins.
4. Gelfand, S. A. (2009). Hearing: An Introduction to Psychological and Physiological Acoustics (5 edition.). London: CRC Press.
5. Katz, J. (2014). Handbook of Clinical Audiology (7th International edition.). Lippincott Williams and Wilkins.
6. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology. Boston: Pearson.

# Electronics and Acoustics: M 2 BLP 1 T 3

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC-8** | Theory | 04 | 04 | 60 hours | 3 hours | 20 | 80 | 100 |

**Course Outcome (CO):**

After completion of course, students will be able to:

CO 1 **:** Introduction to Electronics & Signal Processing
CO 2 : Fundamentals of Acoustics-
CO 3 : Introduction to Information Technology
CO 4 : Instrumentation in Speech, Language and Hearing
CO 5 : Gain knowledge about sound characteristics such as frequency, wavelength, amplitude

| **Unit-I: Introduction to Electronics & Signal Processing** | **15 hours** |
|---|---|
| 1.1 Basic principle of operation and working of<br>• Resistors, variable resistor, capacitor inductor, semiconductor, and diodes<br>• LEDs, seven-segment displays,LCDs<br>• Introduction to signal processing<br>• Amplification concept of gain and bandwidth<br>• Frequency response<br>1.2 Power supply<br>• Block diagram of DC power supply, description, and working of each block<br>• AC power supply & voltage stabilization and servo-controlled method of stabilization<br>• UPS and Inverters<br>• Isolation transformer, AC power supply grounding<br>1.3 Fundamental of digital signal processing<br>• Binary number system, logic gates, flip flops, and counters<br>• Analog signal & digital signal –Representation and comparison<br>• Converting analog signal to digital signal<br>• The basic structure of a digital processing system<br>• Converting digital signal to analog signal<br>1.4 Application of DSP<br>• Analog signal processing Vs digital signal processing – Comparison, merits, and demerits<br>Applications of DSP in communication sciences and disorder. | |

| **Unit-II: Fundamentals of Acoustics-** | **15 hours** |
|---|---|
| 2.1 Physics of Sound<br>• Nature and Propagation of sound<br>• Sound characteristics such as frequency, wavelength, amplitude<br>• Pitch and Loudness- Sone, Phon, equal-loudness contour<br>• Sound pressure level and sound power level<br>2.2 Quality and properties of sound<br>• Time-domain and frequency domain representation<br>• Acoustic Impedance<br>2.3 Acoustic Environment in closed rooms<br>• Reflection and absorption, reverberation<br>• Background noise, speech to noise ratio<br>• Techniques to reduce reverberation<br>• Acoustically treated rooms – Basic requirements, concept, and structure.<br>2.4 Transducers, Sound Measurement, reproduction, and recording<br>• Microphones-Piezoelectric, moving coil, condenser, electrets, etc<br>• Loudspeaker and their enclosures<br>• Digital recording & audiometric transducers reproduction<br>• Sound level meters & acoustic measurements | |
| **Unit-III: Introduction to Information Technology** | **15 hours** |
| 3.1 Introduction to computers<br>• SMPS, Hardware, Memory devices, and types of storage media<br>• Specification of personal computers<br>3.2 Software<br>• Operating systems-Types, comparison, and functioning<br>• Application software used in Communication Sciences and disorder<br>• Mobile Apps-concept & functioning<br>3.3 Structure and functioning of internet and intranet<br>• Concept of internet and world wide web<br>• Local Area Network – structure and components<br>3.4 Basic concept of Tele diagnosis & Tele rehabilitation | |
| **Unit-IV: Instrumentation in Speech, Language and Hearing** | **15 hours** |
| 4.1 Introduction to electronic instrumentation<br>• Pre-amplifiers and Power amplifiers<br>• Filters-different types and their frequency response<br>4.2 Principle of operation, a block diagram of<br>• The basic technology of analog and digital hearing aids<br>• Audiometers<br>• Immittance meters<br>• Group amplification and Assistive Listening Devices<br>• Speech spectrograph<br>4.3 Calibration of audiometers – Equipment, setup, and procedure. | |

**References:**


1. Haughton, P., & Haughton, P. M. (2002). Acoustics for Audiologists (1st edition.).San Diego, Calif: Emerald Group Publishing Limited.
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# Clinical (Speech Language Pathology): M 2 BLP 1 P 4

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| DSC- 9 | Practical | 02 | 9 | 140 hours | 10 | 40 | 50 |

**Course Outcome (CO):**

After completion of course, students will be able to:

**CO 1** : Carry out clinical counseling
**CO 2** : carry out perceptual analysis
**CO 3** : to write diagnostic report
**CO 4** : Carry out speech audiometry
**CO 5** : knowledge about various speech and language techniques
**CO 6** Case history taking

**List of the Experiments for 30 hours / Semesters**

1. Study the available normative data (Indian/Western) of language such as phonology, semantics, syntax, morphology, and pragmatic measures.
2. Perceptual analysis of speech and language parameters in normal (2 children and 2 adults) and persons with speech disorders (3 adults + 3children).
3. Prepare a model diagnostic report of a patient with speech and language disorder.
4. Prepare a diagnostic and therapy kit.
5. Make a list of speech-language stimulation techniques and other therapy techniques for various speech disorders.
6. Familiarize with the sources for referral and parent counseling procedures.
7. 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.
8. Prepare a report on the available clinical facilities and clinical activities of the institute.
9. Observe the evaluation process and counseling of at least 5 different speech and language disorders in children.
10. Observe the evaluation process and counseling of at least 5 different speech and language disorders in adults.
11. Take case-history of a minimum of 10 individuals (5 normal & 5 clients with complaints of speech-language problems).
12. Observation of diagnostic procedures.
13. Observe various therapeutic methods carried out with children and adults with speech and language disorders.

# Clinical (Audiology): M 2 BLP 1 P 5

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| DSC-10 | Practical | 02 | 9 | 140 hours | 10 | 40 | 50 |

**Course Outcome (CO):**

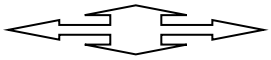
After completion of course, students will be able to:

**CO 1**: Carry out clinical masking
**CO 2**: Carry out pure tone audiometry
**CO 3**: Perform otoscopy
**CO 4**: Carry out speech audiometry
**CO 5**: Measure difference limen of intensity, frequency, and duration
**CO 6**: Case history taking
**CO 7**: Tuning fork tests
**CO 8**: Plot audiogram

**List of the Experiments for 30 hours / Semesters**

1. Calculate the relative intensities with different reference intensities.
2. Calculate decibels when sound intensities are doubled, increased by 4times
3. Carry out pure tone and speech audiometry on 10 normal-hearing individuals.
4. Carry out clinical masking on10 normal hearing individuals with simulated conductive hearing loss and carry out clinical masking on 5 individuals with conductive hearing loss and 5 individuals with sensorineural hearing loss.
5. Carryout daily listening checks and subjective calibrations 20 times and observe objective calibration once
6. Perform otoscopy and draw the tympanic membrane of 10 healthy normal individuals
7. Measure difference limen of intensity, frequency, and duration on 10 normal-hearing adults and plot it in graphical form and interpret the results
8. Measure equal loudness level contours at a minimum level, 40 dB SPL, 70 dB SPL (1 kHz) in 5 normal-hearing adults
9. Take case history on 5 adults and 5 children with a hearing problem and correlate the information from case history to results of pure tone audiometry
10. Administer different tuning fork tests on 5 simulated conductive and 5 sensorineural hearing loss individuals
11. Observe case history being taken on 5 adults and 5 children with a hearing problem and correlate the information from case history to results of pure tone audiometry.
12. Administer different tuning fork tests on 5 conductive and 5 sensorineural hearing loss individuals.
13. Observe the pure tone audiometry being carried out on 30 clients.

14. Plot the audiogram, calculate the pure tone average, and write the provisional diagnosis of observed clients.
15. Perform otoscopy (under supervision) on at least 1 client with the following conditions: Tympanic membrane perforation, SOM, CSOM.



**AECC2.1: Kannada/ functional kannada**

As per the University Guidelines

**AECC2.2: English**

As per the University Guidelines

| **Formative Assessment for Theory** | |
|---|---|
| **Assessment Occasion/ type** | **Marks** |
| Internal Assessment Test 1 | 05 |
| Internal Assessment Test 2 | 05 |
| Assignment | 10 |
| **Total** | **20 Marks** |
| ***Formative Assessment as per guidelines.*** | |

**GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSC/ EC/AECC**

**(80 marks for semester end Examination with 3 hours duration)**

**Part-A**

1. Question number 1-10 carries 2 marks each. Answer all questions : 20 marks

**Part-B**

**2.** Question number 11- 18 carries 5 Marks each. Answer any 6 questions : 30 marks

**Part-C**

**3.** Question number 19-22 carries 10 Marks each. Answer any 03 questions : 30 marks

(Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary

**Total : 80 Marks**

**Note: Proportionate weight age shall be given to each unit based on number of hours prescribed**

## GENERAL PATTERN OF PRACTICAL EXAMINATION

**(40 marks for semester end Examination with 2 hours duration)**

| Sl. No. | Domain | Marks |
|---|---|---|
| 1 | Accuracy | 10 |
| 2 | Skill | 10 |
| 3 | Graphs and Diagrams | 10 |
| 4 | Report Submission | 5 |
| 5 | Viva | 5 |
| Total | | 40 |

**Semester –III**

## Voice and its Disorders- M 3 BLP 1 T1

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-11 | Theory | 04 | 04 | 60 | 3 hours | 20 | 80 | 100 |

**Course outcome**

After completing this course, the students should be able to

- Describe characteristics of good, normal and abnormal voice and identify voice disorders.
- Explain etiology related to voice problems, and its pathophysiology.
- Assess good, normal and abnormal voice.
- Provide counseling and therapy to individuals with voice disorders.

| **Unit 1: Voice Production and Correlates of Voice** | **15 hours** |
|---|---|
| 1.1 Review of anatomy of respiratory, laryngeal, resonatory systems and vocal folds (in detail).<br>1.2 Voice-definition and characteristics.<br>1.3 Physiology of voice – voice production, Theories of phonation, pitch, and loudness change<br>1.4 Correlates of voice – acoustic, psycho-physical, aerodynamic, and physiological correlates<br>1.5 Changes in voice with age (lifespan) and factors influencing voice development. | |
| **Unit 2: Assessment of Voice** | **15 hours** |
| 2.1 Assessment of voice: Methods<br>2.2 Qualitative: pitch, loudness, quality assessment, rating scales, protocols (GRBAS, CAPE-V &others).<br>2.3 Quantitative-Multi dimensional analysis of voice: Acoustic (such as F0, jitter, shimmer, LTAS, optimum pitch, formant frequencies, H/N and S/N ratio), aerodynamic (such as vital capacity, MPD, MAFR, Sub-glottal pressure), laryngeal (Glottogram, Inverse filtering), myographic.<br>2.4 Measurement of nasality (Objective and subjective)<br>2.5 Invasive methods: Such as videokymography, videoendoscopy & videostroboscopy. | |
| **Unit3: Voice Disorders and its Classification Systems** | **15 hours** |
| 3.1 Classification systems of voice disorders and their clinical applications.<br>3.2 Voice disorders- Organic, Neurological (vocal fold palsies, Spasmodic dysphonia, Essential voice tremor), Pyschogenic, functional, mutational falsetto, puberphonia, Endocrinal- causes, signs, symptoms, vocal symptoms.<br>3.3 Congenital conditions of larynx- characteristics, signs, symptoms, vocal symptoms: oral and nasal cavities causing voice disorders – stenosis, web, tracheo-laryngomalacia, | |

| | |
|---|---|
| hypernasality and hyponasality.<br>3.4 Aging of Voice: characteristics, signs, symptoms, vocal symptoms<br>3.5 Professional use of voice and its disorders. | |
| **Unit 4: Management of Voice Disorders** | **15 hours** |
| 4.1 Voice therapy techniques/ methods: Facilitating Approaches, Establishing/ Modifying the Pitch, loudness, management of hyper functional, hypofunctional voice disorders, hypernasality & hyponasality.<br>4.2 Medical and Surgical Management of voice disorders: Common classes of drugs used and surgical procedures used in treatment of some disorders of voice | |

**Practicum**

1. Record phonation and speaking samples (counting numbers) from five children, adult men, adult women, geriatric men, and geriatric women. Note recording parameters and differences in material.
2. Make inferences on age and sex differences across the samples obtained in the previous experiment using perceptual voice profiling.
3. Make a note of differences in pitch, loudness, quality and voice control. Explain how voice reflects one's personality and other social aspects.
4. Analyze 5 male and 5 female voices (including your own voice) in terms of acoustic, aerodynamic, laryngeal, and psycho-physical aspects, including the measures of MPT and s/z ratio.
5. Analyze the phonation samples of supra normal, normal, and abnormal voice and generate a voice report based on these findings. Compare findings between men & women. Listen to the voice sample and identify the pitch and confirm the same by instrumental analysis.
6. Perform the acoustic analysis (in 4 & 5) using at least one software i.e., Praat, Dr. Speech, MDVP, Vaghmi.
7. Observe and document findings from five laryngeal examinations (pre- recorded or live) such as VLS, stroboscopy or any other relevant.
8. Administer a PROM on five individuals.
9. Prepare a vocal hygiene checklist.
10. Demonstrate therapy techniques such as vocal function exercise, resonant voice therapy, digital manipulation, push pull, relaxation exercises.

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24. Brown, O.L. (1996). Discover your voice. San Diego: Singular Publishing Group
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# Speech Sound Disorders- M 3 BLP 1 T2

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-12 | Theory | 03 | 03 | 45 | 3 hours | 20 | 80 | 100 |

**Course outcome**

After completing this course, the student will be able to

- Describe normal speech sound development and characterization of individuals with speech sound disorders.
- Perform phonological analysis and assessment of speech sound disorders.
- Plan intervention for individuals with speech sound disorders.

| **Unit 1: Basic Concepts of Phonology and Distinctive Features and Acoustic Features** | **12 hours** |
|---|---|
| 1.1 Fundamentals of articulatory phonetics – phonetic description of vowels &consonants.<br>1.2 Phonology & phonological theories – generative phonology, natural phonology.<br>1.3 Phonology & phonological theories – non-linear phonology, optimality theory.<br>1.4 Methods to study speech sound acquisition – diary studies, cross sectional studies and longitudinal studies.<br>1.5 Speech sound acquisition<br>a. Birth to one year (development of infant speech perception, early speech production).<br>b. One to two years (consonant inventories, influence of phonological knowledge on vocabulary acquisition).<br>c. Two to five years (growth of phonetic, phonemic, phonotactic inventory – consonants, clusters, phonological patterns).<br>d. Above five years (speech sound mastery and development of literacy – phonological awareness).<br>e. Factors influencing speech sound acquisition.<br>1.6 Acoustics of speech sounds<br>1.7 Speech intelligibility, factors affecting speech intelligibility, assessment of speech intelligibility.<br>1.8 Co-articulation: types and effect.<br>1.9 Phonological development in bilingual children-Phonological development in Indian languages. | |
| Unit 2: **Assessment of Speech Sound Disorders** | **11 hours** |
| 2.1 Current concepts in terminology and classification of speech sound disorders<br>a. Organically based speech sound disorders, childhood apraxia of speech.<br>b. Speech sound disorders of unknown origin, classification by symptomatology.<br>2.2 Factors related to speech sound disorders<br>a. Structure and function of speech & hearing and oro-sensory mechanisms. | |

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|---|---|
| b. Cognitive – linguistic, psychosocial, and social factors.<br>c. Metalinguistic factors related to speech sound disorders.<br>2.3 Introduction to assessment procedures: aims of assessment, screening, and comprehensive assessment.<br>2.4 Speech sound sampling procedures - issues related to single word and connected speech samples: imitation and spontaneous speech samples, contextual testing, recording of speech samples.<br>2.5 Review of tests in Indian and other languages - Single word articulation tests, deep articulation of articulation, and computerized tests of phonology, Influence of language and dialectal variations in assessment.<br>2.6 Transcription of speech sample - transcription methods –IPA and extension of IPA; broad and narrow transcription.<br>2.7 Independent analyses – phonetic inventory, phonemic inventory and phonotactic inventory (utility of independent analysis for analysis of speech of young children and children with severe speech sound disorders).<br>2.8 Relational analyses – SODA, pattern analysis, (distinctive features, phonological process analysis).<br>2.9 Speech sound discrimination assessment, phonological contrast testing and stimulability testing. | |
| Unit 3: **Management of Speech Sound Disorders-I** | **11 hours** |
| 3.1 Determining the need for intervention – speech intelligibility and speech severity assessment.<br>3.2 Factors influencing target selection-stimulability, frequency of occurrence, developmental appropriateness, contextual testing, and phonological process analysis.<br>3.3 Basic considerations in therapy – target selection, basic framework for therapy, goal attack strategies, organizing therapy sessions, individual vs. group therapy.<br>3.4 Treatment continuum-establishment, generalization, and maintenance; measuring clinical change.<br>3.5 Facilitation of generalization.<br>3.6 Maintenance and termination from therapy.<br>3.7 Motor-based treatment approaches – Principles of motor learning.<br>3.8 Discrimination/ear training and sound contrast training.<br>3.9 Establishing production of target sound – imitation, phonetic placement, successive approximation, context utilization.<br>3.10 Traditional approach, contextual/sensory-motor approaches.<br>3.11 General guidelines for motor-based treatment approaches.<br>3.12 Use of technology in articulation correction | |
| Unit 4: **Management of Speech Sound Disorders -II** | **11 hours** |
| 4.1 Core vocabulary approach.<br>4.2 Introduction to linguistically based treatment approaches- Distinctive feature therapy.<br>4.3 Minimal pair contrasts therapy.<br>4.4 Metaphon therapy, Cycles approach.<br>4.5 Broad-based language approaches.<br>4.6 General guidelines for linguistically based approaches.<br>4.7 Phonological awareness and phonological disorders. | |

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|---|---|
| 4.8 Phonological awareness intervention for preschool children.<br>4.9 Adapting intervention approaches to individuals from culturally and linguistically diverse backgrounds.<br>4.10 Role of family in intervention for speech sound disorders. | |

**Practicum:**

1. List the vowels and consonants in your primary language and provide phonetic and acoustic descriptions for the speech sounds.
2. Identify the vowels and consonants of your language on the IPA chart and practice the IPA symbols by transcribing 25words.
3. Make a list of minimal pairs (pairs of words which differ by only one phoneme) in English.
4. Make a list of minimal pairs in any language other than English.
5. Identify the stages of speech sound acquisition by observations from videos of children from birth to 5 years of age.
6. Record the speech of a two-year-old typically developing child, transcribe and analyze the speech sample.
7. Record the speech of one typically developing child from 3-5 years of age (include single word and connected speech samples), transcribe the sample, and perform phonological assessment.
8. Analyze transcribed speech samples of typically developing children – practice independent and relational analysis.
9. Practice instructions for phonetic placement of selected sounds.
10. Develop a home plan with activities for any one section of phonological awareness in English and in one Indian language.

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# Diagnostic Audiology: Behavioral Tests- M 3 BLP 1 T3

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-13 | Theory | 04 | 04 | 60 | 3 hours | 20 | 80 | 100 |

**Course outcome**

After completing this course, the student will be able to

- Choose individualized test battery for assessing cochlear pathology, retro cochlear pathology, functional hearing loss, CAPD, vestibular dysfunctions, tinnitus and hyperacusis
- Independently run the tests and interpret the results to identify the above conditions and also use the information for differential diagnosis
- Make adjustments in the test parameters to improve sensitivity and specificity of tests.
- Make appropriate diagnosis based on the test results and suggest referrals.

| Unit 1: **Overview of Behavioral Diagnostic Tests** | **15 hours** |
|---|---|
| 1.1 Introduction to diagnostic audiology: characteristics of a diagnostic test, difference between screening and diagnostic test, functions of a diagnostic test in Audiology.<br>1.2 Need for test battery approach in auditory diagnosis and integration of results of audiological tests, cross-check principle.<br>1.3 Concept of clinical decision analysis (sensitivity, specificity, true positive, true negative, false positive, false negative, and hit rate).<br>1.4 Definition of behavioral and physiological tests and their characteristics in diagnostic audiology.<br>1.5 Theories and physiological bases of recruitment.<br>1.6 Theories and Physiological bases of auditory adaptation.<br>1.7 Clinical Indications for administering audiological tests to identify cochlear pathology<br>1.8 Clinical Indications for administering audiological tests to identify retro-cochlear pathology | |
| Unit 2: **Cochlear, Retro-cochlear Pathology and Pseudohypacusis** | **15 hours** |
| 2.1 Tests to identify cochlear and retro-cochlear pathology<br>a. ABLB, MLB<br>b. SISI and its variants<br>c. STAT, TDT and its modification<br>d. Bekesy audiometry<br>e. Brief tone audiometry<br>f. PIPB function<br>g. HINT, Quick SIN | |

| | |
|---|---|
| h. Glycerol test<br>i. Psychoacoustic tuning curves and TEN test<br>j. Others<br>2.2 Tests to diagnose functional hearing loss<br>a. Behavioral and clinical indicators of functional hearing loss<br>b. Pure tone tests including tone in noise test, Stenger test, BADGE, Puretone DAF<br>c. Speech tests including Lombard test, Stenger test, lip-reading test, Low level PB word test, Yes-No test, DAF test.<br>d. Identification of functional hearing loss in children: such as Swinging story test, Pulse tone methods<br>2.3 Psycho-social aspects related to pseudohypacusis | |
| Unit 3: **Central Auditory Processing Disorders** | **15 hours** |
| 3.1 Central auditory processing: definition, different behavioral processes.<br>3.2 Behavioral and clinical indicators of central auditory processing disorders Bottle neck and subtlety, redundancy principles and their clinical interpretations.<br>3.3 Screening techniques for CAPD.<br>3.4 Tests to detect central auditory processing disorders.<br>a. Monoaural low redundancy tests - Filtered speech tests, Time compressed speech test, Speech-in-noise test, SSI with ICM,<br>b. Dichotic speech tests – Dichotic digit test,<br>c. Staggered spondaic word test, Dichotic CV test, SSI with CCM, Competing sentence test,<br>d. Binaural interaction tests – RASP, BFT, SWAMI, and MLD<br>e. Tests of Temporal processing – Pitch pattern test, Duration pattern tests, Gap detection test, TMTF<br>f. Screening test for auditory processing<br>g. Overview about CAPD in older adults<br>h. Review of CAPD tests with reference to site of lesion (Brainstem, cortical, hemispheric and interhemispheric lesion)<br>3.5 Diagnostic criteria for CAPD<br>3.6 Variables influencing the assessment of central auditory processing:<br>a. Procedural variables<br>b. Subject variables | |
| Unit 4: **Vestibular and Tinnitus Assessment** | **15 hours** |
| 4.1 Vestibular assessment<br>a. Overview of balance functioning<br>b. Overview of nystagmus, giddiness, vertigo<br>c. Behavioral tests to assess vestibular functioning (Fukuda stepping test, Tandem gait test, Finger nose pointing, Romberg test, sharpened Romberg test, head thrust test and head impulse test)<br>4.2 Tests to assess Tinnitus and Hyperacusis<br>a. Overview of Tinnitus and Hyperacusis<br>b. Pitch matching,<br>c. Loudness matching,<br>d. Residual inhibition, | |

| | |
|---|---|
| e. Feldmann masking curves<br>f. Johnson Hyperacusis Dynamic Range Quotient<br>4.3 Variables influencing the assessment:<br>a. Procedural variable<br>b. Subject variables | |

**Practicum:**

1. Administer ABLB, MLB and prepare laddergram (ABLB to be administered by blocking one ear with impression material)
2. Administer classical SISI on 3 individuals and note down the scores
3. Administer tone decay tests (classical and its modifications) and note down the results (at least 3individuals)
4. Plot PIPB function using standardized lists in any 5 individuals
5. Administer the tests of functional hearing loss (both tone based, and speech based) by asking subject to malinger and having a yardstick of loudness.
6. Administer CAPD test battery to assess different processes on 3 individuals and note down the scores
7. Administer Fukuda stepping test, Tandem gait test, Finger nose pointing, Romberg test, Sharpened Romberg test, Dix-Hallpike test, Log-roll test on 5 of the individuals each and note down the observations.
8. Estimate the pitch and loudness of tinnitus in 2 persons with tinnitus (under supervision). Assess the residual inhibition in them.
9. Plot Feldman masking curves for a hypothetical case
10. Administer Johnson Hyperacusis Dynamic Range Quotient on any 2 of the individuals and note down the scores.

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# Clinical psychology: M 3 BLP 1 T4

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC-14** | Theory | 03 | 03 | 45 hours | 3 hours | 20 | 80 | 100 |

After completion of course, students will be able to:

**CO 1 : Basic concepts in psychology**
**CO 2 : various clinical methods in psychology**
**CO 3 : Developmental psychology**
**CO 4 Learning, Behaviour Modification and Counseling**

| **Unit 1 Basic Concepts in Psychology** | **12 hours** |
|---|---|
| 1.1 Introduction to psychology: Definition, history & schools of psychology<br>1.2 Scope of psychology<br>1.3 Meaning & definition of clinical psychology<br>1.4 Historical development, the modern history of clinical psychology<br>1.5 Current status of clinical psychology<br>1.6 Scope as a specialty (clinical psychology) in health sciences<br>1.7 Role of clinical psychology in speech and hearing<br>1.8 Concept of normality<br>1.9 Concept of abnormality<br>1.10 Models of mental disorders: Biological, psychological and social models | |
| **Unit 2: Clinical Methods** | **11 hours** |
| 2.1 Methods in clinical psychology<br>• Case history<br>• Clinical interviewing<br>• Clinical observation<br>• Definition & types of psychological testing<br>• Assessment of cognitive functions<br>• Adaptive functions,<br>• Personality<br>• Behavioral assessment<br>2.2 Classification of abnormal behavior<br>• History, need & rationale of classification<br>2.3 Current classificatory systems:<br>• DSM<br>• ICD | |
| **Unit 3 : Developmental Psychology** | **11 hours** |

| | |
|---|---|
| 3.1 Child & developmental psychology: Meaning, definition & scope<br>• Meaning of growth, development & maturation<br>• Principles of child development<br>3.2 Motor development: general principles of motor development<br>• Stages in motor development: early motor development, motor development during later childhood and adolescence, decline with age<br>3.3 Cognitive development: growth from early childhood to adolescence<br>• Piaget's theory of cognitive development<br>3.4 Emotional development<br>3.5 Social development<br>3.6 Development of play behavior | |
| **Unit 4: Learning, Behaviour Modification and Counseling** | **11 hours** |
| 4.1 Learning: Meaning, definition & characteristics<br>4.2 Theories of learning:<br>• Introduction<br>• Pavlov's classical conditioning: experiments & principles<br>• Skinner's operant conditioning: experiments & principles<br>4.3 Therapeutic techniques based on learning principles:<br>• Skill behavior techniques<br>• Problem behavior techniques<br>4.4 Counselling: Introduction & definition<br>4.5 Types of counseling: Directive & non-directive<br>4.6 Characteristics of a good counselor<br>04.7 Documentation in counseling and follow up methods | |

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# Clinical (Speech Language Pathology) - M 3 BLP 1 P4

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| DSC-15 | Practical | 02 | 09 | 140 | 10 | 40 | 50 |

**General considerations**:

- Exposure is primarily aimed to be linked to the theory courses covered in the semester.
- After completion of clinical postings in Speech –language diagnostics, the student will know (concepts), know how (ability to apply), show (demonstrate in a clinical diary/logbook based on clinical reports/recordings, etc.), and do (perform on patients/client contacts) the following:

**Know:**

1. 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.
2. Methods to examine the structures of the oral cavity/organs of speech.
3. The tools to assess language abilities in children (with hearing impairment, specific language impairment & mixed receptive language disorder).
4. Development of speech sounds in vernacular and linguistic nuances of the language.

**Know-how:**

1. To evaluate speech and language components using informal assessment methods.
2. To administer at least two standard tests for childhood language disorders.
3. To administer at least two standard tests of articulation/ speech sounds.
4. To assess speech intelligibility.

**Show**:

1. Analysis of language components – Form, content & use – minimum of 2samples.
2. Analysis of speech sounds at different linguistic levels including phonological processes – minimum of 2 samples.
3. Transcription of speech language samples – minimum of 2samples.
4. Analyze differences in dialects of the local language.

**Do**:

1. Case history - minimum of 5 individuals with speech & language disorders.
2. Oral peripheral examination - minimum of 5 individuals.
3. Language evaluation report – minimum of 5.

Speech sound evaluation report – minimum of 5.

# Clinical (Audiology)- M 3 BLP 1 P5

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| DSC-16 | Practical | 02 | 09 | 140 | 10 | 40 | 50 |

**General considerations**:

- Exposure is primarily aimed to be linked to the theory courses covered in the semester, however, not just limited to these areas.
- After completion of clinical postings in auditory diagnostics and auditory rehabilitation, the student will Know (concept), know how (ability to apply), show (demonstrate in a clinical diary/logbook), and do (perform on patients/ client contacts) the following:

**Know:**

1. Methods to calibrate audiometer.
2. Materials commonly employed in speech audiometry.
3. Calculation pure tone average, % of hearing loss, minimum and maximum masking levels.
4. Different types of hearing loss and its common causes

**Know-how:**

1. To obtain detailed case history from clients or parents/guardians.
2. To carryout commonly used tuning fork tests.
3. To administer pure tone audiometry including appropriate masking techniques on adults using at least techniques.
4. To administer tests to find out speech reception threshold, speech identification scores, most comfortable and uncomfortable levels on adults.

**Show:**

1. Plotting of audiograms with different degree and type with appropriate symbols- audiograms per degree and type
2. Detailed case history taken and its analysis
3. Calculation degree, type and percentage of hearing loss on 5 sample conditions

**Do:**

1. Case history on at least 5 adults and 3 children with hearing disorders
2. Tuning fork test on at least 2 individuals with conductive and 2 individuals with sensorineural hearing loss
3. Pure tone audiometry with appropriate masking on 5 individuals with conductive, 5 individuals SN hearing loss and 3 individuals with unilateral/asymmetric hearing loss

**AECC3.1: Kannada/ Hindi**

As per the University Guidelines

**AECC3.2: English**

| Formative Assessment for Theory | |
|---|---|
| **Assessment Occasion/ type** | **Marks** |
| Internal Assessment Test 1 | 05 |
| Internal Assessment Test 2 | 05 |
| Assignment | 10 |
| **Total** | **20 Marks** |
| ***Formative Assessment as per guidelines.*** | |

**GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSC/ EC/AECC**

**(80 marks for semester end Examination with 3 hours duration)**

**Part-A**

1. Question number 1-10 carries 2 marks each. Answer all questions : 20 marks

**Part-B**

**2.** Question number 11- 18 carries 5 Marks each. Answer any 6 questions : 30 marks

**Part-C**

**3.** Question number 19-22 carries 10 Marks each. Answer any 03 questions : 30 marks

(Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary

**Total : 80 Marks**

**Note: Proportionate weight age shall be given to each unit based on number of hours Prescribed**

## GENERAL PATTERN OF PRACTICAL EXAMINATION

**(40 marks for semester end Examination with 2 hours duration)**

| Sl. No. | Domain | Marks |
|---|---|---|
| 1 | Accuracy | 10 |
| 2 | Skill | 10 |
| 3 | Graphs and Diagrams | 10 |
| 4 | Report Submission | 5 |
| 5 | Viva | 5 |
| **Total** | | **40** |

**Semester –IV**

# Fluency and Its Disorders-M4BLP1T1

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-17 | Theory | 04 | 04 | 60 hours | 3 hours. | 20 | 80 | 100 |

**Course outcome**

After completion of the course, the student will be able to

- Understand the characteristics of fluency and its disorders
- Evaluate and diagnose fluency disorders
- Learn about the techniques for the management of fluency disorders

| **Unit 1: Introduction to Fluency and Stuttering** | **15 hours** |
|---|---|
| 1.1 Fluency: definition, dimensions, development, factors influencing fluency<br>a. Fluency/disfluency/Dysfluency<br>b. Stuttering<br>c. Definition, epidemiological findings, prevalence and incidence<br>d. Stuttering: characteristics<br>1.2 Nature of Stuttering<br>a. Consistency, adjacency, and Lee effect<br>b. Situational variability<br>c. stuttering and heredity<br>1.3 Development of stuttering<br>a. Bloodstein's phases,<br>b. Van Riper's tracks,<br>c. Conture's classification,<br>d. Guitar's classification | |
| **Unit 2: Theories and Assessment of Stuttering** | **15 hours** |
| 2.1 Introduction to theories of stuttering – organic vs functional<br>a. Cerebral dominance<br>b. Diagnosogenic theory<br>c. Learning theories<br>d. Demands – capacities model<br>2.2 Brief overview of recent theoretical advances<br>a. Covert repair hypothesis<br>b. EXPLAN theory<br>c. Neuroscience model: DIVA model<br>d. Communication – Emotional model<br>2.3 Assessment of stuttering and associated problems<br>a. Tools for assessment of stuttering<br>b. Assessment of stuttering in children | |

| | |
|---|---|
| c. Assessment of stuttering in adults<br>2.4 Differential diagnosis of developmental stuttering from other fluency disorders | |
| **Unit 3: Management of Stuttering** | **15 hours** |
| 3.1 Counseling.<br>3.2 Therapy for children who stutter: Direct/Indirect approaches.<br>a. Preventive, Prescriptive and Comprehensive treatment program.<br>b. Use of analogies.<br>c. Time out and Response cost.<br>d. Lidcombe program.<br>e. Parent – child interaction therapy.<br>3.3 Therapy for adults who stutter stuttering modification and fluency shaping approaches and the rationale.<br>a. Prolonged speech therapy.<br>b. Air flow-based therapy techniques.<br>c. Shadowing.<br>d. Habit rehearsal techniques.<br>e. DAF.<br>f. Masking.<br>g. Camper-down program.<br>h. Systematic Desensitization.<br>i. cognitive- behavior therapy for adults who stutter.<br>3.4 Steps/Sequence of therapy.<br>a. MIDVAS.<br>b. Establishment, transfer, and maintenance.<br>3.5 Relapse and recovery from stuttering.<br>3.6 Measurement of therapy progress & naturalness rating.<br>3.7 Group therapy. | |
| **Unit 4: Other Fluency Disorders** | **15 hours** |
| 4.1 Cluttering: definition, characteristics, assessment and management.<br>4.2 Neurogenic stuttering/SAAND: definition, characteristics, assessment and management.<br>4.3 Psychogenic stuttering: definition, characteristics, assessment and management. | |

**Practicum**

1. Assess the rate of speech in 5 normal adults.
2. Record and analyze the supra segmental features in typically developing children between 2 and 5years.
3. Record audio visual sample of 5 typically developing children and 5adults for fluency analysis.
4. Listen/see samples of normal non fluency and stuttering in children and document the differences.
5. Identify the types of dysfluencies in the recorded samples of adults with stuttering.
6. Instruct and demonstrate the following techniques: Airflow, prolongation, easy onset shadowing techniques.
7. Record 5 speech samples with various delays in auditory feedback and analyze the differences.
8. Administer SPI on 5 typically developing children.

9. Administer SSI on 5 adults with normal fluency.
10. Administer self-rating scale on 10 adults with normal fluency.

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# Structural Anomalies and Speech Disorders: M4BLP1T2

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-18 | Theory | 03 | 03 | 45 | 3 hours | 20 | 80 | 100 |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** Evaluate and diagnose the speech characteristics seen in these disorders.

**CO2:** Learn about the techniques for the management of speech disorders in these conditions.

| | | |
|---|---|---|
| **Unit I** | **Introduction to Cleft Lip and Palate and Associated Problems** | **11 hours** |
| | 1.1 Embryology – development of the palate<br>1.2 Causes – genetic, environmental, and other causes<br>1.3 Types of cleft lip and palate and classification of cleft lip and palate<br>1.4 Communication disorders: language and hearing<br>• Feeding, psychological, and dental problems<br>• Syndromes associated with cleft lip and palate | |
| **Unit II** | **Velopharyngeal Dysfunction and Assessment** | **11 hours** |
| | 2.1 Velopharyngeal closure mechanism: Normal Physiology and types of different velopharyngeal closure<br>2.2 Velopharyngeal Dysfunction (VPD)<br>• Definition causes and classification.<br>• Effect of VPD on speech<br>• Assessment of VPD: Subjective and objective methods (Direct measures– Videofluroscopy, MRI, CT, Cephalometric images, Cineradiography, Nasopharyngoscopy; Indirect measures – TONAR, Nasometry, NVS, Nasal View, ZIPPO, PERCI, Pressure flow technique, Rhinomanometry). | |
| **Unit III** | **Assessment and Management of CLP** | **11 hours** |
| | 3.1. Assessment of cleft lip/palate: Cleft palate Perceptual protocols<br>3.2. Management of cleft lip and palate – surgery, speech therapy, prosthesis<br>3.3. Speech and language therapy for CLP: early intervention, therapy techniques to improve language, speech therapy techniques to reduce compensatory articulation, speech therapy methods to improve resonance and speech intelligibility. | |
| **Unit IV** | **Types of Oral and Laryngeal Cancer and Management** | **12 hours** |

| | | |
|---|---|---|
| | 4.1 Definition, Causes and symptoms of laryngeal cancers.<br>4.2 Total laryngectomy – definition, characteristics, associated problems<br>4.3 Types of glossectomy and mandibulectomy<br>4.4 Assessment of patients with laryngectomy, glossectomy, mandibulectomy<br>4.5 pre-and post-operative counselling<br>4.6 Esophageal speech – anatomy, candidacy, different types of air intake procedure, speech characteristics in esophageal speech<br>4.7 Tracheo-Esophageal Speech – anatomy, candidacy, different types of TEP, fitting of prosthesis, speech characteristics, complications in TEP.<br>4.8 Artificial larynx – different types, selection of artificial larynx, ultra- speech, speech characteristics.<br>4.9 Gastric pull up – issues and management.<br>4.10 Glossectomy, mandibulectomy–management | |

**Practicum**

1. Identify the different types of cleft lip and palate by looking at illustrations and images.
2. Listen to 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.
3. 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.
4. Perform oral peripheral mechanism examination on 10 individuals and document the structure and functions of the articulators.
5. Analyse the different types of occlusions in 10individuals.
6. Identify the type of glossectomy by looking at pictures/illustrations.
7. Identify the different types of prosthesis in the management of head and neck cancer.
8. Analyse the speech profile of 5 individuals with laryngectomy.
9. Identify parts of an artificial larynx and explore its use.
10. Prepare a checklist / pamphlet illustrating care of the stoma and T- tubes in vernacular.

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# Diagnostic Audiology: Physiological Tests-M4BLP1T3

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-19 | Theory | 04 | 04 | 60 | 3 hours | 20 | 80 | 100 |

**Course outcome**

After completing this course, the students will be able to

- Justify the need for using the different physiological tests in the audiological assessment.
- Independently run the tests and interpret the results to detect the middle ear, cochlear and retro cochlear pathologies and also differentially diagnose.
- Design tailor-made test protocols in immittance, AEP's and OAE's as per the clinical need.
- Make appropriate diagnosis based on the test results and suggest referrals.

| **Unit1: Immittance Evaluation** | **15 hours** |
|---|---|
| 1.1 Introduction: Definition of a physiological test, List of physiological tests in Audiology, overview of their clinical significance<br>1.2 Principle of immittance evaluation: Concept of impedance and admittance, their components, method to calculate the total impedance/admittance, resonant frequency, concept of acoustic impedance, justification for using admittance in clinical measurements, justification for using 226Hz probe tone<br>1.3 Instrumentation<br>1.4 Tympanometry: definition, measurement procedure, response parameters (tympanometric peak pressure, static admittance, gradient/tympanometric width), their measurement and normative, classification of tympanogram, clinical significance of tympanometry<br>1.5 Eustachian tube functioning tests of tympanometry: overview on pressure equalization function of ET, Valsalva, Toynbee, William's pressure swallow, Inflation-deflation test.<br>1.6 Overview on multicomponent and multi-frequency tympanometry<br>1.7 Reflexometry: Definition, acoustic reflex pathway, measurement procedure, concept of ipsilateral and contralateral acoustic reflexes, Jerger box pattern, clinical applications of acoustic reflexes, Reflex decay test.<br>1.8 Overview on wide band reflectance and wide band tympanometry | |
| **Unit 2: Auditory Brainstem Response** | **15 hours** |
| 2.1 Introduction and classification of AEPs<br>2.2 Instrumentation<br>2.3 Principles of AEP recording techniques: Stimulus related, acquisition related: Near vs far field recording, Electrode Impedance, Electrode montage (Dipole orientation, Scalp distribution), Common mode rejection, Pre- amplification, Filtering, Time locked acquisition, Artifact rejection windowing, Averaging.<br>2.4 Introduction to Auditory brainstem responses (ABR), generators<br>a. Protocol and procedure of recording Auditory brainstem response<br>b. Factors affecting auditory brainstem responses | |

| | |
|---|---|
| c. Analysis of ABR and clinical inferences<br>d. Clinical applications of ABR | |
| **Unit 3: Middle and Long Latency Auditory Evoked Potentials** | **15 hours** |
| 3.1 Introduction to middle and late latency auditory potentials<br>a. Generators of MLR, ALLR and<br>b. other late auditory potentials (P300 and MMN, P600, N400, T-complex, CNV)<br>c. Protocol for recording MLR, ALLR, P300 and MMN<br>d. Analysis of MLR, LLR, P300 and MMN<br>e. Factors affecting MLR and ALLR<br>f. Interpretation of results and their clinical applications of MLR and cortical auditory evoked potentials | |
| **Unit 4: Otoacoustic Emissions and Tests of Vestibular functioning** | **15 hours** |
| 4.1 Introduction to Otoacoustic emissions with a brief note on history<br>a. Origin and classification of OAEs<br>4.2 Instrumentation<br>a. Procedure of OAE measurement: SOAE, TEOAEs, and DPOAEs<br>b. Interpretation of results: SOAE, TEOAEs, and DPOAEs<br>c. Factors affecting OAEs: SOAE, TEOAEs, and DPOAEs<br>d. Clinical applications of OAEs: SOAE, TEOAEs, and DPOAEs<br>e. Contralateral suppression of OAEs and its clinical implications<br>4.3 Overview on structure and function of vestibular system<br>a. Overview on other systems involved in balance including VOR and VSR<br>b. Signs and Symptoms of vestibular disorders<br>c. Team in the assessment and management of vestibular disorders<br>d. Tests for Assessment<br>e. Electro-nystagmography and its clinical significance: Measurement procedure and interpretation: tests for peripheral and central vestibular function<br>f. Overview on VNG<br>g. VEMP: c-VEMP and o-VEMP, recording procedure, response interpretation and clinical inferences | |

**Practicum**

1. Measure admittance in the calibration cavities of various volumes and note down the observations
2. Calculate Equivalent ear canal volume by measuring static admittance in an uncompensated tympanogram (10ears)
3. Do tympanogram in the manual mode and measure peak pressure, peak admittance and ear canal volume manually using cursor (10ears).
4. Measure gradient of the tympanogram (10ears)
5. Administer Valsalva and Toynbee and William's pressure swallow test(5 ears)
6. Record acoustic reflex thresholds in the ipsi and contra modes, (10ears)
7. Plot Jerger box pattern for various hypothetical conditions that affect acoustic reflexes and interpret the pattern and the corresponding condition.
8. Carry out Acoustic reflex decay test and quantify the decay manually using cursor (5individuals).
9. Trace threshold of ABR (in 5 dB nHL steps near the threshold) for clicks and tone bursts of different

frequencies (2 persons) and draw latency intensity function.

10. Record ABR using single versus dual channels and, note down the differences
11. Record ABR at different repetition rates in 10/sec step beginning with 10.1/11.1 per second. Latency-repetition rate function needs to be drawn.
12. Record with each of three transducers (HP, insert phones and bone vibrator) and polarities and draw a comparative table of the same. Students should also record with different transducers without changing in the protocol in the instrument and calculate the correction factor required.
13. Record ASSR for stimuli of different frequencies and estimate the thresholds
14. Record TEOAEs and note down the amplitude, SNR, noise floor and reproducibility at octave and mid-octave frequencies. Note down the stimulus stability and the overall SNR (10ears).
15. Record DPOAEs and note down the amplitude, SNR, noise floor and reproducibility at octave and mid-octave frequencies (10ears).

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# Pediatric Audiology: M4BLP1T4

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-20. | Theory | 03 | 03 | 45 | 3 hours | 20 | 80 | 100 |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** Describe auditory development.
**CO2:** List etiologies and relate them to different types of auditory disorders that may arise.
**CO3:** Explain different hearing screening/identification procedures and their application.
**CO4:** Elaborate on different aspects of pediatric behavioral and physiological/electrophysiological evaluation.

| Unit | Title: | 45 hrs. / semester |
|---|---|---|
| **Unit I** | **Development of Human Auditory System**<br>1.1. Introduction to pediatric audiology and basic terminologies.<br>1.2. Embryological development of the human auditory and vestibular systems, and the relevance of this information with special reference to syndromes.<br>1.3. Maturation of the auditory nervous system and its relevance in pediatric hearing.<br>1.4. Development of auditory behavior – prenatal hearing, newborn hearing, auditory development (minimum response level, localization, perception of speech, need for multiple cues). | 12 hours |
| **Unit II** | **Early Identification of Hearing Loss and Hearing Screening**<br>2.1 Need for early identification with special reference to conductive and sensorineural hearing loss, mild hearing losses, sloping hearing losses, fluctuating hearing losses and unilateral hearing loss.<br>2.2 Recommendations of the Joint committee on infant screening- various position statements showing its evolution.<br>2.3 High risk registers and its utility in early identification.<br>• Commonly used high risk registers<br>• Sensitivity and specificity<br>• Relevance in Indian scenario<br>Universal newborn hearing screening- concept, history, present scenario and hurdles.<br>Behavioral screening tests (awakening test, bottle feeding test, behavioral observation audiometry) stimuli, procedures, recording of response, interpretation of results.<br>Objective screening tests (e.g., Crib-O Gram, auditory cradle, accelerometer recording system, reflex inhibition audiometry, immittance, reflectometry, wide-band reflectance, OAE, evoked potentials).<br>• School screening<br>• Screening for hearing sensitivity- behavioral and objective tests. | 11 hours |

| | | |
|---|---|---|
| | • Screening for (C)APD- Need, tests used (checklists & behavioral screening tests). | |
| **Unit III** | **Diagnostic Evaluations- Behavioral Tests Behavior observation audiometry**<br>3.1 Conditioning techniques:<br>• Visual reinforcement audiometry and its modifications including CORA.<br>• PIWI and peep show audiometry<br>• TROCA<br>• Play audiometry.<br>3.2 Modifications required for multiple disabilities.<br>3.3 Speech audiometry<br>▪ Modification required while carrying out speech audiometry in children.<br>▪ Speech detection threshold<br>▪ Speech recognition threshold<br>▪ Speech recognition scores – PBK, WIPI, NU Chip, Early speech perception test, Ling's six sound tests, auditory number test, tests available in Indian languages<br>▪ BC speech audiometry.<br>3.4 Functional hearing loss- signs & symptoms and tests used.<br>3.5 Balance assessment: need, causes, behavioral tests. | 11 hours |
| **Unit IV** | **Diagnostic Evaluations- Objective tests**<br>4.1 Immittance evaluation- including high frequency probe-tone, tympanometry, reflexometry, wide-band reflectance.<br>4.2 OAEs (TEAOAE & DPOAE)<br>4.3 Evoked potentials (ABR, ASSR & ALLR)<br>4.4 Objective tests for vestibular assessment (cVEMP, oVEMP, vHIT, Calorics & tests for central vestibular assessment). | 11 hours |

**Practicum**

1. Observe a child with normal hearing (0-2 years) in natural settings. Write a report on his/her responses to sound.
2. Observe a child with hearing impairment (0-2 years) in natural settings. Write a report on his/her responses to sound with and without his amplification device.
3. Administer HRR on at least 3 newborns and interpret responses.
4. Based on the case history, reflect on the possible etiology, type and degree of hearing loss the child may have.
5. Compare ABR wave forms in children of varying ages from birth to 24 months.
6. Observe 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.
7. Observe OAE in a child with normal hearing and a child with hearing loss. Write a report on the instrumentation, protocol used and interpretation.
8. Observe ABR in a child with normal hearing and a child with hearing loss. Write down a report on the instrumentation, protocol used and interpretation.
9. Observe immittance evaluation in a child with normal hearing and a child with hearing loss. Write a report on the instrumentation, protocol used and interpretation.
10. Using role play demonstrates how the results of audiological assessment are explained to caregivers 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

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# Clinical (Speech Language Pathology):M4BLP1P5

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| DSC 21 | Practical | 02 | 9 | 140 hours | 10 | 40 | 50 |

**Course Outcome (CO):**

After completion of course, students will be able to:

**CO 1** : Carry out clinical counseling
**CO 2** : carry out perceptual analysis
**CO 3** : to write diagnostic report
**CO 4** : Carry out speech audiometry
**CO 5** : knowledge about various speech and language techniques
**CO 6** : Case history taking

**List of the Experiments for 30 hours / Semesters**

1. Study the available normative data (Indian/Western) of language such as phonology, semantics, syntax, morphology, and pragmatic measures.
2. Perceptual analysis of speech and language parameters in normal (2 children and 2 adults) and persons with speech disorders (3 adults + 3children).
3. Prepare a model diagnostic report of a patient with speech and language disorder.
4. Prepare a diagnostic and therapy kit.
5. Make a list of speech-language stimulation techniques and other therapy techniques for various speech disorders.
6. Familiarize with the sources for referral and parent counseling procedures.
7. 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.
8. Prepare a report on the available clinical facilities and clinical activities of the institute.
9. Observe the evaluation process and counseling of at least 5 different speech and language disorders in children.
10. Observe the evaluation process and counseling of at least 5 different speech and language disorders in adults.
11. Take case-history of a minimum of 10 individuals (5 normal & 5 clients with complaints of speech-language problems).
12. Observation of diagnostic procedures.
13. Observe various therapeutic methods carried out with children and adults with speech and language disorders.

# C3: Clinical (Audiology): M4BLP1P6

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours / Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| DSC 22 | Practical | 02 | 9 | 140 hours | 10 | 40 | 50 |

**Course Outcome (CO):**

After completion of course, students will be able to:

**CO 1**: Carry out clinical masking
**CO 2** : Carry out pure tone audiometry
**CO 3** : Perform otoscopy
**CO 4** : Carry out speech audiometry
**CO 5** : Measure difference limen of intensity, frequency, and duration
**CO 6** : Case history taking
**CO 7** : Tuning fork tests
**CO 8** : Plot audiogram

**List of the Experiments for 30 hours / Semesters**

1. Calculate the relative intensities with different reference intensities.
2. Calculate decibels when sound intensities are doubled, increased by 4times
3. Carry out pure tone and speech audiometry on 10 normal-hearing individuals.
4. Carry out clinical masking on10 normal hearing individuals with simulated conductive hearing loss and carry out clinical masking on 5 individuals with conductive hearing loss and 5 individuals with sensorineural hearing loss.
5. Carryout daily listening checks and subjective calibrations 20 times and observe objective calibration once
6. Perform otoscopy and draw the tympanic membrane of 10 healthy normal individuals
7. Measure difference limen of intensity, frequency, and duration on 10 normal-hearing adults and plot it in graphical form and interpret the results
8. Measure equal loudness level contours at a minimum level, 40 dB SPL, 70 dB SPL (1 kHz) in 5 normal-hearing adults
9. Take case history on 5 adults and 5 children with a hearing problem and correlate the information from case history to results of pure tone audiometry
10. Administer different tuning fork tests on 5 simulated conductive and 5 sensorineural hearing loss individuals
11. Observe case history being taken on 5 adults and 5 children with a hearing problem and correlate the information from case history to results of pure tone audiometry.
12. Administer different tuning fork tests on 5 conductive and 5 sensorineural hearing loss individuals.
13. Observe the pure tone audiometry being carried out on 30 clients.
14. Plot the audiogram, calculate the pure tone average, and write the provisional diagnosis of observed clients.
15. Perform otoscopy (under supervision) on at least 1 client with the following conditions: Tympanic membrane perforation, SOM, CSOM.

**AECC4.1: Kannada/ Hindi**

As per the University Guidelines

**AECC4.2: English**

| **Formative Assessment for Theory** | |
|---|---|
| **Assessment Occasion/ type** | **Marks** |
| Internal Assessment Test 1 | 05 |
| Internal Assessment Test 2 | 05 |
| Assignment | 10 |
| **Total** | **20 Marks** |
| ***Formative Assessment as per guidelines.*** | |

**GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSC/ EC/AECC**

**(80 marks for semester end Examination with 3 hours duration)**

**Part-A**

1. Question number 1-10 carries 2 marks each. Answer all questions : 20 marks

**Part-B**

**2.** Question number 11- 18 carries 5 Marks each. Answer any 6 questions : 30 marks

**Part-C**

**3.** Question number 19-22 carries 10 Marks each. Answer any 03 questions : 30 marks

(Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary

**Total : 80 Marks**

**Note: Proportionate weight age shall be given to each unit based on number of hours Prescribed**

## GENERAL PATTERN OF PRACTICAL EXAMINATION

**(40 marks for semester end Examination with 2 hours duration)**

| Sl. No. | Domain | Marks |
|---|---|---|
| 1 | Accuracy | 10 |
| 2 | Skill | 10 |
| 3 | Graphs and Diagrams | 10 |
| 4 | Report Submission | 5 |
| 5 | Viva | 5 |
| **Total** | | **40** |

**B.ASLP Semester – V**

**Motor Speech Disorders in children: M5BLP1T1**

| Type of Course | Theory /Practical | Credits | Instruction hours per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC-23** | **Theory** | **04** | **04** | **60** | **3 hours** | **20** | **80** | **100** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO 1:** Describe the characteristics of motor speech disorders in children such as cerebral palsy, childhood apraxia of speech and other childhood dysarthria.

**CO 2:** Assess the speech and non-speech aspects associated with the above conditions.

**CO 3:** Plan and execute therapy strategies for children with motor speech disorders.

| Unit | Title: | 60hrs. / semester |
|---|---|---|
| **Unit I** | **Introduction to Neuromotor Organization and Sensorimotor Control of Speech and Motor Speech Disorders**<br>1.1 Central and peripheral nervous system in speech motor control (motor control by cortical, subcortical structures, centrifugal pathways, brainstem, cerebellum and spinal cord).<br>1.2 Neuromuscular organization and control and sensorimotor integration.<br>1.3 Introduction to motor speech disorders in children<br>• Motor speech disorders leading to developmental dysarthria.<br>- Cerebral palsy - definition, causes, associated problems, and classification.<br>- Syndromes leading to dysarthria (Juvenile progressive bulbar palsy, Congenital supranuclear palsy, Guillain-Barre syndrome, Worster-drought syndrome, Duchenne Muscular dystrophy)<br>• Motor speech disorders leading to developmental apraxia of speech- definition, causes, associated problems, and classification.<br>1.4 High risk registers for neurological conditions. | 15 hours |
| **Unit II** | **Nature of Motor speech Disorders in Children**<br>2.1 Neuromuscular development in normal children and children with cerebral palsy<br>2.2 Reflex profile<br>2.3 Different types of cerebral palsy<br>• Disorders of muscle tone – spasticity, rigidity, flaccidity, atonia<br>• Disorders of movement – Hyperkinesias and dyskinesias – Ballismus, tremor, tic disorder, myoclonus, athetosis, chorea, dystonia, hypokinesias.<br>• Disorders of coordination -Ataxia<br>2.4 Speech and language problems in cerebral palsy<br>2.5 Different types of apraxia- verbal and nonverbal apraxia<br>2.6 Speech and language characteristics in developmental apraxia | 15 hours |
| **Unit** | **Assessment of Motor Speech Disorders in Children** | 15 hours |

| | | |
|---|---|---|
| **III** | 3.1 Assessment of speech (acoustic, respiratory, resonatory, prosodic aspects) in cerebral palsy – objective and subjective methods<br>3.2 Assessment of oro-motor aspects and feeding<br>3.3 Assessment of speech in developmental apraxia<br>3.4 Differential diagnosis of motor speech disorders with other developmental speech disorder. | |
| **Unit IV** | **Management of Motor Speech Disorders in Children**<br>4.1. Team approach to rehabilitation and General principles of motor learning<br>4.2.Speech and oro-motor rehabilitation in cerebral palsy<br>Approaches to intervention-Behavioural (vegetative exercises, oral sensorimotor facilitation techniques, compensatory and facilitatory techniques for the correction of respiratory, phonatory, resonatory & articulatory errors) and prosthetic.<br>4.3.Feeding intervention in cerebral Palsy.<br>4.4.Motor approaches: Different approaches in neuromuscular education (such as Bobath, Temple Fay, Phelps)<br>4.5.Medical management of cerebral palsy (pharmacological and neurosurgical).<br>4.6.Management of developmental apraxia of speech: specific speech therapy techniques, other approaches<br>4.7.Augmentative and alternative communication (AAC)- Application of AAC methods in children with motor speech disorders in the Indian context, available AAC options (systems and devices), symbol selection (access methods), assessment for AAC candidacy, AAC intervention (team approach in the advocacy of AAC, instructional strategies).<br>4.8.Preventive measures to reduce the neurological conditions. | 15 hours |

**Practicum**

1. With the help of models, charts, and software, identify the motor control centers in the brain.
2. Perform oro-motor examination in five children and adults and compare.
3. Identify oro-motor reflexes (rooting, suckling, & phase bite) in 5 infants.
4. Demonstrate normal posture and breathing patterns required for varied speech tasks.
5. Alter the postures and breathing patterns and notice changes in speech patterns.
6. Assess DDK rate in five typically developing children.
7. Rate intelligibility of speech in five typically developing children. Discuss factors that influenced speech intelligibility and their ratings.
8. Observe and record (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.
9. Perform oro-motor exercises – isotonic and isometric. Discuss strategies to modify exercises for children.
10. 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.
11. Observe feeding and swallowing skills in different age groups of children: 2 newborns; 2

infants, 2 toddlers, and 2 older children. Identify the differences in feeding methods, food consistencies, texture, quantity, feeding habits, feeding appliances used by these children.

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# Child language disorders: M5BLP1T2

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC 24** | **Theory** | **03** | **03** | **45** | **3 hours** | **20** | **80** | **100** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** Evaluate and diagnose the speech characteristics seen in these disorders.

**CO2:** Learn about the techniques for the management of speech disorders in these conditions.

| Unit | Title: | 45 hrs. / semester |
|---|---|---|
| Unit I | **Overview of Theories of Language Acquisition and Neurobiological Correlates of Language Development in Children**<br>1.1. Overview of theories of language acquisition in children-Traditional and modern approaches in each: Biological maturation approaches, Cognitive approaches, Linguistic approaches, Information processing theories, Behavior theory, Pragmatic approaches<br>1.2. Language acquisition including bilinguals/multilinguals- types (based on age, manner of acquisition, factors affecting language acquisition).<br>1.3. Role of Psychosocial and environmental factors in language development.<br>1.4. Neurobiological correlates – neuroanatomical, neurophysiological, and neurochemical aspects of language development, Neurobiological underpinnings in child language disorders. | 12 hours |
| Unit II | **Language Characteristics (Oral and Written) of Developmental and Acquired Language Disorders in Children**<br>Delayed speech and language development associated with:<br>• Hearing impairment<br>• Intellectual disability<br>• Syndromes associated with child language disorders-Down Syndrome, Fragile X Syndrome, William's Syndrome, Klinefelter's Syndrome.<br>• Autism Spectrum Disorders.<br>• Developmental dysphasia/specific language impairment<br>• Acquired dysphasia/Acquired Childhood Aphasia<br>• ADD and ADHD<br>• Language Learning disability/Dyslexia<br>• Other conditions<br>• Co-morbidity in children | 11 hours |
| Unit III | **Assessment of Children with Language Disorders**<br>3.1. Preliminary components of assessment: Case history, screening, evaluation of environmental, linguistic & cultural variables.<br>3.2. 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.<br>3.3. Informal assessment - pre-linguistic behavior, play, mother-child interaction.<br>3.4. Language sampling: planning and collecting representative sample; strategies to collecting language sample, audio-video recording, transcription. | 11 hours |

| | | |
|---|---|---|
| | 3.5. Analysis of language sample: Specific to various components of language such as phonology, morphology, syntax, semantics, and pragmatics.<br>3.6. 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.<br>3.7. Test materials used for children with developmental delay, intellectual disability: Madras Developmental Program Scale, Bayley's Scale for infant and toddler development.<br>3.8. Test materials used for children with autism spectrum disorder: Modified-Checklist for Assessment of Autism in Toddlers, Childhood Autism Rating Scale, Indian Scale for Assessment of Autism.<br>3.9. Other test materials used for children with ADHD, ACA, LD (NIMH battery for assessment of Learning Disability).<br>3.10. Documenting assessment results: diagnostic report, summary report and referral report specific to disorder.<br>3.11. Differential diagnosis of language disorders in children | |
| Unit IV | **Management of Children with Language Disorders**<br>4.1. Approaches and techniques for management of language disorders in children– cognitive linguistic, behavioral, play therapy and Augmentative & alternative communication approaches.<br>4.2.Importance of team approach-Other approaches such as medical/surgical/Physiotherapy/ Occupational therapy.<br>4.3. Benefits, concessions and rights for children with language disorders | 11 hours |

**Practicum**

1. 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.
2. 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- 10years.
3. Discuss the influence of bi- or multilingualism on vocabulary.
4. 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.
5. Administer 3D LAT, ALD, LPT, ComDEALL checklist on 2 typically developing children.
6. Draft a diagnostic report and referral letter for a child with language disorder.
7. Demonstrate general language stimulation techniques and discuss the clinical application.
8. Demonstrate specific language stimulation techniques with appropriate materials and discuss its clinical applications.
9. Draft Subjective Objective Assessment Plan (SOAP) for a pre-recorded sample of a 45-minute session of intervention for a child with language disorder.
10. Draft a lesson plan for a child with language disorder.
11. Draft a discharge summary report for a child with language disorder.

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# Amplification Devices: M5BLP1T3

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures/Hours /Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC- 25 | Theory | 04 | 04 | 60 | 3 hours | 20 | 80 | 100 |

**Course Outcomes (COs): At the end of the course students will be able to:**

CO 1: Identify different types of hearing aids and explain their components.

CO 2: Carry out Electro-acoustic measurement and categorize the hearing aids accordingly.

CO 3: Describe different signal processing strategies and their relevance in different listening conditions.

CO 4: Cross check whether the hearing aids meet the standards.

| Unit | Title: | 60 hrs. / semester |
|---|---|---|
| **Unit I** | **Basics and Classifications of Hearing Aids**<br>1.1 Historical development of hearing aids-mechanical, analogue, digital hearing aid<br>1.2 Basic components of hearing aids –microphones, amplifier, receiver/vibrator, cords, volume control, telecoil, and batteries.<br>1.3 Body level, ear level hearing aids (BTE, ITE, ITC, CIC, IIC, RIC, RITE)<br>1.4 Analogue, Programmable and Digital Hearing aid<br>1.5 Binaural, pseudo-binaural, mono-aural<br>1.6 Master hearing aids<br>1.7 Modular hearing aids<br>1.8 Group Amplification – hard wire, induction loop, FM, infrared | 15 hours |
| **Unit II** | **Signal Processing in Hearing Aids**<br>2.1 Artificial Intelligence in Hearing aids<br>2.2 Signal processing in hearing aids - BILL, TILL PILL<br>2.3 Signal enhancing technology- Digital Noise reduction, Directionality of Microphones, Speech cue enhancement | 15 hours |
| **Unit III** | **Compression in Hearing Aids and other Signal Processing**<br>3.1Output limiting: peak clipping, compression (Input/output compression, compression ratio, compression knee point, WDRC, Compression limiting, high level compression, low level compression), Expansion Hearing Aid.<br>3.2 Extended low frequency amplification, frequency lowering techniques.<br>3.3 Routing of signals, head shadow/baffle/ diffraction effects | 15 hours |
| **Unit IV** | **Electro-acoustic Measurement of Hearing aids**<br>4.1Electro-acoustic measurements for hearing aids Purpose, parameters, instrumentation, procedure (analogue and digital), variables affecting EAM.<br>4.2Standards on Electro-acoustic measurements of Hearing aids (BIS, IEC and ANSI standards).<br>4.3Environmental tests for Hearing aids | 15 hours |

**Practicum**

- Listen to the output of different types and classes of hearing aids (monaural, binaural, analog,

digital hearing aids), in different settings.

- Troubleshoot hearing aids: Check the continuity of the receiver cord using multimeter, measure the voltage of different sized batteries using multi meter, Check voltage of batteries different types and sizes.
- Carry out electroacoustic measurements for the body level and ear level hearing aids.
- Program the hearing aid for different configuration and degrees of hearing loss (at least 5 different audiograms) using different prescriptive formulae.
- Program the hearing aid for different listening situations (at least 3 different situations)
- Vary the compression settings in a digital hearing aid and note down the differences in the output.
- Perform real ear insertion measurements using different hearing aids (body level and ear level, hearing aids of different gains)
- Compare speech perception through conventional BTE and RIC hearing aids using a rating scale.
- Observe assistive listening devices such as telephone amplifier, vibro-tactile alarms, note down the candidacy and their utility.

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# Rehabilitative Audiology- M5BLP1T4

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC-26 | Theory | 03 | 03 | 45 | 3 hours | 20 | 80 | 100 |

**Course outcome**

After completing this course, the students will be able to

- List various types of auditory training approaches available for individuals with hearing impairment.
- Explain various types of speech reading tests and speech reading training procedures available.
- Select appropriate management option/s for Tinnitus and Hyperacusis.
- Select appropriate management technique/s for children with special needs.
- Select appropriate management strategies for older adults with hearing impairment.

| **Unit 1: Auditory Learning** | **11 hours** |
|---|---|
| 1 Definitions and historical background, Auditory training Vs Auditory learning<br>1.2 Role of audition in speech and language development in normal children and its application in education of individuals with hearing impairment<br>1.3 Factors affecting outcome of auditory learning<br>1.4 Methods of auditory training<br>1.5 Individual Vs Group auditory training<br>1.6 Auditory training activities<br>For individuals of different listening abilities /levels<br>Verbal vs. nonverbal material<br>For individuals Vs group activities<br>1.7 Computer based modules for auditory training | |
| **Unit 2: Speech Reading** | **12 hours** |
| 2.1 Definitions and Need of speech reading<br>2.2 Visibility of speech sounds – audiovisual perception vs. visual perception<br>2.3 Visual perception of speech by individuals with hearing impairment<br>2.4 Overview of speech reading tests, including Indian tests<br>Analytic Vs Synthetic tests<br>Adults Vs Children<br>2.5 Factors influencing speech reading.<br>2.6 Methods of speech reading training: analytical vs synthetic (including speech tracking)<br>2.7Individual and group speech reading training<br>2.8 Speech reading activities<br>For adults and children<br>For individual vs. group activities | |
| **Unit 3: Management of Tinnitus and Hyperacusis** | **11 hours** |

| | |
|---|---|
| 3.1 Audiological management of tinnitus<br>Overview on Models related to tinnitus management<br>TRT, Masking, others<br>Devices used for management<br>3.2 Audiological management of hyperacusis | |
| **Unit 4: Management of Children with Special Needs and Rehabilitation of Older Adults with Hearing Impairment** | **11 hours** |
| 4.1 Management of the deaf-blind child.<br>4.2 Management of other multiple disabilities like hearing loss associated with cognitive problems.<br>4.3 Overview on management of children with central auditory processing problems. Special strategies used for rehabilitation of older adults with hearing impairment.<br>4.4. Communication strategies: Anticipatory strategies and Repair strategies. | |

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# Clinical (Speech-Language Pathology): M5BLP1P5

| Type of Course | Theory /Practical | Credits | Instruction hour/week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| **DSC-27** | **Practical** | **02** | **09** | **140** | **10** | **40** | **50** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** know (concepts), know how (ability to apply), show (demonstrate in a clinical diary/logbook based on clinical reports/recordings, etc.), and do (perform on patients/ client contacts) the following.

**Know:**

1. Differential diagnosis of motor speech disorders in children.
2. Procedures to assess individuals with cleft lip and palate, and other oro-facial structural abnormalities.
3. Procedures to assess laryngectomee and provide management options.

**Know-how:**

1. To administer at least two more (in addition to earlier semesters) standard tests for childhood language disorders.
2. To assess posture and breathing for speech in children with motor speech disorders.
3. To consult with inter-disciplinary medical/rehabilitation team and counsel the individual/family regarding management options and prognosis.

**Show:**

1. Rating of cleft, speech intelligibility and nasality–minimum of 2 individuals with cleft lip and palate.
2. Language assessment - minimum of 2 individuals with cleft lip and palate.
3. Assessment of rate of speech on various speech tasks – at least on 2 children &adults.

**Do:**

1. Oral peripheral examination on minimum of 2 individuals with cleft lip and palate.
2. Apply 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.

# Clinical (Audiology): M5BLP1P6

| Type of Course | Theory /Practical | Credits | Instruction hour/week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| **DSC - 28** | **Practical** | **02** | **09** | **140** | **10** | **40** | **50** |

**Course Outcomes (COs): At the end of the course students will be able to:**

General considerations**:**

- Exposure is primarily aimed to be linked to the theory courses covered in the semester, however, not just limited to these areas.
- After completion of clinical postings in auditory diagnostics and auditory rehabilitation, the student will Know (concept), know how (ability to apply), show (demonstrate in a clinical diary/logbook), and do (perform on patients/ client contacts) the following:

**Know:**

1. Different protocols in tympanometry and reflexometry.
2. Different protocols used in auditory brainstem responses.
3. Protocols for screening and diagnostic otoacoustic emissions
4. Tests to assess vestibular system.
5. Different indications for selecting implantable hearing devices.
6. Various speech stimulation and auditory training techniques

**Know-how:**

1. To administer auditory brainstem responses for the purpose of threshold estimation and sight of lesion testing
2. To administer high frequency tympanometry and calculate resonance frequency.
3. To administer high risk register
4. To modify the given environment to suit the needs of hearing impairment.

.Show:

1. Analysis of ABR waveforms – threshold estimation 5 and site of lesion 5
2. Analysis of immittance audiometry and relating to other tests – 5 individuals with conductive and 5 individuals with sensory-neural hearing loss
3. How to formulate select appropriate auditory training technique based on audiological evaluation.

**Do:**

1. Threshold estimation on 5 infants (< 2 years)
2. TEOAE and DPOAE on 5 infants (<2 years)
3. BOA on 5 infants (<2 years)
4. VRA on 2 infants (6 month – 3 year)
5. Conditioned play audiometry – 3 children (3-6 years)
6. Hearing aid fitment on 1 infant (< 3 years) 2 children (3-6 years)
7. Listening age of 3 children with hearing impairment
8. Appropriate auditory training on 5 children with hearing loss

## C4 – Research Methods and Statistics: M5BLP1T7

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC-29** | **Theory** | **03** | **03** | **45** | **3 hours** | **20** | **80** | **100** |

**Course Outcomes (COs): At the end of the course, students will be able to:**

**CO1:** Basic concept of research in the field of audiology and speech-language pathology

**CO 2:** Design and execution of research

**CO3:** Ethical guidelines for conducting research.

| Unit | Title: | 45 hrs. / semester |
|---|---|---|
| **Unit I** | **Introduction to Research Methods**<br>1.1 Meaning and purpose of research: meaning.<br>1.2 Need for research in audiology and speech-language pathology<br>1.3 Funds/grants for research<br>1.4 Steps in research: identification, selection<br>1.5 Formulation of research questions: aims, objectives, statement of problem, hypothesis<br>1.6 Types of variables; types of sampling procedures (random and non-random);<br>1.7 Types/ methods of data collection and their advantages and disadvantages<br>1.8 Reliability and validity (internal and external validity) | 11 hours |
| **Unit II** | **Research Design in Audiology and Speech-Language Pathology**<br>2.1 Types of research: survey, ex-post facto research, normative research, standard-group comparison<br>2.2 Experimental and quasi experimental research: group design & single subject design; Between groups vs. repeated measures design<br>2.3 Epidemiologic data sources and measurements<br>2.4 Epidemiologic methods – questionnaire survey, screening, personal survey, testing<br>2.5 Media - their advantages and disadvantages<br>2.6 Incidence and prevalence of hearing, speech, language disorders as per different census (NSSO, WHO)<br>2.7 Internal and external validity of research<br>2.8 Documentation of research: scientific report writing, different formats or styles (APA, AMA, and MLA),<br>2.9 Ethics of research | 11 hours |
| **Unit III** | **Introduction to Statistics and Data Collection**<br>3.1 Application of statistics in the field of Audiology and speech-language pathology.<br>3.2 Scales of measurement: nominal, ordinal, interval, ratio<br>3.3 Classification of data: class intervals, continuous and discrete measurement<br>3.4 Normal distribution: general properties of normal distribution, theory of | 11 hours |

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|---|---|---|
| | probability, area under normal probability curve<br>3.5 Variants from the normal distribution: skewness and kurtosis<br>3.6 Measure of central tendency: mean, median, mode | |
| **Unit IV** | **Statistics and Research Designs**<br>4.1 Choosing statistics for different research designs.<br>4.2 Correlational techniques: Pearson's Product Moment Correlation Coefficient.<br>4.3 Spearman's Rank order correlation coefficient<br>4.4 Statistical inference: concept of standard error and its use; the significance of statistical measures; testing the significance of difference between two meansz-test, t-test; analysis of variance, post hoc tests.<br>4.5 Non-parametric tests: Chi-square test, Wilcoxon test, Mann-Whitney U test<br>4.6 Reliability and validity of test scores: reliability and validity, Item analysis<br>4.7 Analysis of qualitative data<br>4.8 Software for statistical analysis | 12 hours |

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# E1. Otolaryngology- M5BLP1T8

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC 30 | Theory | 03 | 03 | 45 | 3 hours | 20 | 80 | 100 |

**Course outcome**

After completing this course, the student will be able to

- Understand the causes, signs, symptoms, patho-physiology and management of diseases of external, middle and inner ear leading to hearing loss.
- Understands Causes, signs, symptoms, patho-physiology and management of diseases of laryngeal and articulatory systems

| **Unit 1: External and Middle Ear and their Disorders** | **11 hours** |
|---|---|
| 1.1 Clinical anatomy of the ear<br>1.2 Congenital anomalies<br>1.3 Diseases of the external ear<br>1.4 Perforation and ruptures of tympanic membrane<br>1.5 Eustachian tube dysfunction<br>1.6 Otitis media with effusion<br>1.7 Cholesteatoma and chronic suppurative Otitis media<br>1.8 Otosclerosis<br>1.9 Trauma to temporal bone<br>1.10 Facial nerve and its disorder | |
| **Unit 2: Inner Ear and its Disorders** | **12 hours** |
| 2.1 Congenital anomalies<br>2.2 Meniere's Disorder<br>2.3 Ototoxicity<br>2.4 Presbycusis<br>2.5 Disorders of vestibular system<br>2.6 Vestibular Schwannoma<br>2.7 Tinnitus and medical line of treatment<br>2.8 Pre-surgical medical and radiological evaluations for implantable hearing devices<br>2.9 Overview of surgical technique for restoration and preservation of hearing<br>2.10 Post-surgical care and complication of surgery for cochlear implants<br>2.11 Overview of surgical technique, post-surgical care and complication of surgeries for implantable hearing devices<br>2.12 Implantable bone conducted hearing aids and middle ear implant | |
| **Unit 3:Oral cavity, Pharynx, Esophagus and their Disorders** | **11 hours** |
| 3.1 Anatomy of the oral cavity<br>3.2 Common disorders of the oral cavity<br>3.3 Cleft lip and palate – medical aspects | |

| | |
|---|---|
| 3.4 Clinical anatomy and physiology of pharynx<br>3.5 Inflammatory conditions of the pharynx, tonsils and adenoids<br>3.6 Clinical anatomy and physiology of esophagus<br>3.8 Clinical examination of esophagus<br>3.8 Congenital and acquired diseases of esophagus<br>3.9 Airway management procedures | |
| **Unit 4: Larynx and its Disorders** | **11 hours** |
| 4.1 Clinical anatomy of larynx<br>4.2 Difference between adult and infant larynx<br>4.3 Clinical examination of larynx<br>4.4 Stroboscopy - technique, procedure, interpretation and precautions<br>4.5 Congenital laryngeal pathologies<br>4.6 Inflammatory conditions of the larynx<br>4.7 Vocal nodule and other disorders of the vocal folds<br>4.8 Benign and malignant tumors of the larynx<br>4.9 Laryngectomy – overview of surgical procedure<br>4.10 Phono-surgery and other voice restoration surgeries | |

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# E1. Neurology: M5BLP1T9

| Type of Course | Theory / Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| DSC 30 | Theory | 03 | 03 | 45 | 3 hours | 20 | 80 | 100 |

**Course outcome**

After completing this course, the student will be able to understand

- Basic concepts, anatomy and physiology of nervous system related to speech and hearing
- Neural organization –different structures and functions of various systems neurosensory and neuromotor controls in speech, language and hearing mechanisms
- Cerebral plasticity and dominance and its relevance for speech, language and hearing disorders
- Various neural diseases, lesions, nutritional and metabolic conditions affecting speech, language and hearing
- Basic principles and assessment procedures used in speech, language and hearing disorders associated with neurological conditions
- Basic principles and management procedures used in speech, language and hearing disorders associated with neurological conditions

| | | |
|---|---|---|
| **Unit 1** | **Essential Neurological Concepts & Relationship between Neuroscience and Speech-Language & Hearing-**<br>• 1.1 Scope of Neuroscience and its branches<br>• 1.2 Principles governing the human brain<br>• 1.3 Orientation to technical terminology<br>• 1.4 Terms related to the Neural structure<br>• 1.5 Structure of the CNS<br>• 1.6 Nervous system classification<br>• 1.7 Techniques for learning Neuroscience | 11 hours |
| **Unit 2** | **Gross Anatomy and Blood Supply to the Brain-**<br>• 2.1 Central and peripheral nervous system<br>• 2.2 Anatomy of the brain<br>• 2.3 Different lobes and their functions specifically for speech-language and hearing<br>• 2.4 Spinal cord- structure and functions<br>• 2.5 Networking of spinal nerves<br>• 2.6 Meninges of the brain and spinal cord<br>• 2.7 Autonomic nervous system<br>• 2.8 Classification of spinal and cranial nerves their numbers and functions | 11 hours |

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|---|---|---|
| | • 2.9 Blood supply to the brain- various arteries supplying blood to various lobes of the brain and importance of Circle of Willis and its importance | |
| **Unit 3** | **Common Causes of Neurological Conditions and Neurological Assessment**<br>• 3.1 Classification of causes- infections, ageing, metabolic, tumors and technology related<br>• 3.2 Preventive measures to reduce the neurological conditions<br>• 3.3 High risk registers for neurological conditions<br>• 3.4 Introduction to CT scan and MRI. | 11 hours |
| **Unit 4** | **Common Neurological Conditions Leading to Speech-language and Hearing Disorders – Signs, Symptoms and Behavioral Characteristics**<br>• 1Cerebrovascular diseases – ischemic brain damage – hypoxic ischemic encephalopathy, cerebral infarction – intracranial haemorrhage – intracranial, subarachnoid.<br>• 4.2 Trauma to the CNS – subdural haematoma, epidural haemotoma, parenchymal brain damages<br>• 4.3 Demyelinating diseases, Degenerative, metabolic and nutritional disorders – multiple sclerosis, Alzheimer's disease, Parkinsonism | 12 hours |

**References**


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| Formative Assessment for Theory | |
|---|---|
| **Assessment Occasion/ type** | **Marks** |
| Internal Assessment Test 1 | 05 |
| Internal Assessment Test 2 | 05 |
| Assignment | 10 |
| **Total** | **20 Marks** |
| ***Formative Assessment as per guidelines.*** | |

**GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSC/ EC/AECC**

**(80 marks for semester end Examination with 3 hours duration)**

**Part-A**

1. Question number 1-10 carries 2 marks each. Answer all questions : 20 marks

**Part-B**

**2.** Question number 11-18 carries 5 Marks each. Answer any 6 questions : 30 marks

**Part-C**

**3.** Question number 19-22 carries 10 Marks each. Answer any 03 questions : 30 marks

(Minimum 1 question from each unit and 10 marks question may have sub questions for 7+3 or 6+4 or 5+5 if necessary

**Total : 80 Marks**

**Note: Proportionate weight age shall be given to each unit based on number of hours Prescribed**

## GENERAL PATTERN OF PRACTICAL EXAMINATION

**(40 marks for semester end Examination with 2 hours duration)**

| Sl. No. | Domain | Marks |
|---|---|---|
| 1 | Accuracy | 10 |
| 2 | Skill | 10 |
| 3 | Graphs and Diagrams | 10 |
| 4 | Report Submission | 5 |
| 5 | Viva | 5 |
| **Total** | | **40** |

**B.ASLP Semester–VI**

# Motor Speech Disorders in Adults: M6BLP1T1

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC-31** | **Theory** | **04** | **04** | **60** | **3 hours** | **20** | **80** | **100** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** Understand the characteristics of acquired motor speech disorders in adults.

**CO2:** Evaluate and diagnose speech characteristics in acquired motor speech disorders.

**CO3:** Learn about the techniques for the management of speech and related errors in acquired motor speech disorders.

| Unit | Title: | 60 hrs. / semester |
|---|---|---|
| **Unit I** | **Introduction to Motor Speech Disorders in Adults**<br>1.1 Dysarthria in adults:<br>• Definition and different classification systems of dysarthria in adults<br>• Types of dysarthria in adults and their neurological bases<br>• Non speech and speech characteristics in different types of dysarthria<br>• Acoustic and physiological findings in different types of dysarthria.<br>1.2 Apraxia of speech in adults (AOS):<br>• Definition of verbal and nonverbal apraxia of speech.<br>• Different types of apraxia in adults and their neurological bases.<br>• Non speech and speech characteristics of AOS.<br>• Acoustic and physiologic findings in AOS.<br>1.3 Physiology of normal swallow and its characteristics in different neurological conditions such as ALS, Parkinson's disease, Huntington's disease, multiple sclerosis, apraxia. | 15 hours |
| **Unit II** | **Etiologies of Dysarthria and Apraxia of Speech**<br>2.1. Common causes leading to any of the dysarthria and apraxia: Traumatic brain injury (TBI), Cerebrovascular accident (CVA), Infections such as meningitis, encephalitis, and HIV, Neoplasms, Toxic agents, Ischemic brain damage, Hypoxic ischemic encephalopathy, Cerebral infarction, Intracranial hemorrhage, subarachnoid hemorrhage.<br>2.2. Common neurogenic conditions leading to dysarthria.<br>• Flaccid dysarthria: Muscular dystrophy, polymyositis, myasthenia gravis, poliomyelitis, polyneuritis (Guillian-Barresyndrome)<br>• Ataxic dysarthria: Ataxic telangiectasia, Von-Hippel Lindau disease, Freidrich's ataxia<br>• Hypokinetic dysarthria: Parkinson's disease<br>• Hyperkinetic dysarthria: Tardive dyskinesia, Huntington's and Syndenham's | 15 hours |

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|---|---|---|
| | chorea, Meige syndrome, Tourette's syndrome.<br>• Mixed dysarthria: Motor neurone disease [Amyotrophic multiple sclerosis (ALS), Primary lateral sclerosis (PLS), Progressive bulbarand pseudobulbar palsy], Corticobasal Degeneration (CBD), Wilson's disease, Neurosyphilis. | |
| **Unit III** | **Assessment of Dysarthria and Apraxia of Speech**<br>3.1 Assessment of dysarthria<br>• Perceptual analysis – examination of the speech systems during speech and nonspeech (oro-motor and oro-sensory) activities, standard tests and methods, speech intelligibility assessment scales.<br>• Instrumental analysis-Aerodynamic, Electromyographic, Kinematic, Acoustic<br>3.2 Advantages and disadvantages of instrumental and perceptual analysis of speech.<br>3.3 Assessment of apraxia of speech-standard tests and scales, subjective methods and protocols.<br>3.4 Differential diagnosis of dysarthria from functional articulation disorders, apraxia of speech, aphasia and allied disorders.<br>3.5 Evaluation of swallowing disorders (Dysphagia)- An overview to subjective and objective methods. | 15 hours |
| **Unit IV** | **Management of Dysarthria and Apraxia of Speech**<br>4.1 Management of dysarthria–<br>• General intervention principles<br>• Behavioural approaches (vegetative exercises, oral sensorimotor facilitation techniques, compensatory and facilitatory techniques for the correction of respiratory, phonatory, resonatory, articulatory & prosodic errors)<br>• Prosthetic and medical (surgical and pharmacological approaches.<br>4.2 Management of apraxia of speech- principles of motor learning, different behavioral management approaches including articulatory kinematic approaches, rate and /or rhythm approaches.<br>4.3 Application of Augmentative and Alternative Communication (AAC) systems for adult dysarthric and apraxic individuals –assessment for AAC candidacy, choosing an appropriate system and technique, training communication partners, generalization of learning and effective use of AAC in adult dysarthrics and apraxics.<br>4.4 Management of swallowing disorders (Dysphagia) – An overview to rehabilitative and compensatory approaches. | 15 hours |

**Practicum:**

1. Identify the cranial nerves and mention its origin and insertion from a picture/model.
2. Demonstrate methods to assess the cranial nerves.
3. Assess the respiratory system using speech and non-speech tasks in 10 healthy adults.
4. Assess the phonatory system using subjective and acoustic analysis in 10 healthy adults.
5. Looking at a video identify the clinical signs and symptoms of different neurological conditions resulting in Dysarthria.

6. Record the speech sample of 5 normal adults and compare with the audio sample of individuals with Dysarthria.
7. Administer Duffy's intelligibility rating scale on 5 healthy adults.
8. Administer Frenchay's Dysarthria Assessment on 5 healthy adults.
9. Demonstrate activities to improve the functions of speech subsystem.
10. Identify the signs of UMN and LMN based on a video.
11. Prepare a low tech AAC for functional communication for an individual with apraxia.

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# Language Disorders in Adults: M6BLP1T2

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC-32** | **Theory** | **03** | **03** | **45** | **3 hours** | **20** | **80** | **100** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** Understand the characteristics of adult language disorders.

**CO2:** Evaluate and diagnose speech characteristics in adults with language disorders.

**CO3:** Learn about the techniques for the management of speech and related errors in language disorders seen in adults**.**

| Unit | Title: | 45 hrs. / semester |
|---|---|---|
| **Unit I** | **Neurosciences of Adult Language Disorders & Aphasiology**<br>1.1 Neuroanatomical, neurophysiological, and neurochemical correlates for language function<br>1.2 Neurolinguistic models and language processes – connectionists, hierarchical, global, process and computational models<br>1.3 Historical aspects of aphasia<br>1.4 Definitions, causes, classifications (cortical and subcortical aphasias), approaches to classification systems, types of aphasia- speech, language, behavioral and cognitive characteristics of varieties of aphasia | 11 hours |
| **Unit II** | **Non-Aphasic Language Disorders/ Cognitive Communication Disorders in Adults**<br>A brief overview of Speech, language characteristics in<br>• TBI (Traumatic Brain Injury) - Trauma to the CNS – subdural haematoma, epidural haemotoma, parenchymal brain damages<br>• RHD (Right Hemisphere Damage)<br>• Dementia<br>• PPA (Primary Progressive Aphasia)<br>• Schizophrenia<br>• Metabolic disorders<br>• Alcohol induced disorders. | 11 hours |
| **Unit III** | **Assessment of Aphasia and Other Cognitive Communication Disorders**<br>3.1 Assessment of cognitive-linguistic behavior of adults with aphasia – Screening, Diagnostic and performance assessment tools (Scoring, interpretation, and rationale) –BST, WAB, RTT, BAT, LPT, CLAP, CLQT.<br>3.2 Assessment of speech, language, linguistic and cognitive behavior of adults with non-aphasic language disorders/ Cognitive communication disorder*s* – MMSE, ABCD, CLAP, CLQT.<br>3.3 Reflections on approaches to assessment in bi/multilingual situation.<br>3.4 Theories of spontaneous recovery and prognostic indicators of aphasia and other cognitive-communication disorders. | 11 hours |

| | | |
|---|---|---|
| **Unit IV** | **Intervention Strategies for Aphasia and Cognitive-Communication Disorders**<br>4.1 Principles of language intervention<br>4.2 Speech-Language Management Approaches- Deblocking, VCIU, LOT, MAAT, PACE, Stimulation Facilitation Approach, RET, VAT, Semantic Feature Analysis, TAP, TUF.<br>4.3 Team approach in rehabilitation of adult language disorders<br>4.4 Counseling and home management for aphasia and other cognitive-communication disorders.<br>4.5 Rights of persons with aphasia. | 12 hours |

**Practicum**

1. Identify different lobes of in the brain by looking at a model/ image and label the language areas.
2. Administer a standardized test battery on 3 normal individuals to assess language and cognition.
3. Administer bilingual aphasia test on 3 healthy normal adults.
4. List the language characteristics in different types of aphasia from a video.
5. Analyse the speech, linguistic and non-linguistic features seen in Right hemisphere damaged individual from a video.
6. In a given brain model mark the subcortical structures involved in language processing/production.
7. Demonstrate various facilitatory and compensatory therapy techniques in the management of aphasia.
8. Formulate activities to assess linguistic abilities in dementia and aphasia.
9. Counsel by a role play for a given profile of an individual with adult language disorder.
10. Prepare a counselling checklist /guideline that can be used with the family members of an individual with aphasia and traumatic brain injury.

**References**

**Common**


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# Hearing aid fitting and Implantable devices: M6BLP1T3

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC-33** | **Theory** | **04** | **04** | **60** | **3 hrs.** | **20** | **80** | **100** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** Select hearing aids based on preselection factors and appropriate tests.
**CO2:** Select different assistive listening devices.
**CO3:** Take ear impression and prepare the ear mould.
**CO4:** Decide candidacy and select appropriate implantable device.
**CO5:** Troubleshooting hearing aids and counsel.

| Unit | Title | 60 hrs. / semester |
|---|---|---|
| **Unit I** | **Hearing Aid Selection and Fitting**<br>1.1 Pre-selection factors<br>1.2 Selection and programming of linear and non-linear digital hearing aids using prescriptive and comparative procedures.<br>1.3 Verification using functional gain and insertion gain methods.<br>1.4 Use of impedance, OAEs and AEPs | 15 hours |
| **Unit II** | **Hearing Aid Fitting in Different Population, Assistive Listening Devices and Outcome Measures**<br>2.1 Hearing aids for conductive hearing loss<br>2.2 Hearing aids for children<br>2.3 Hearing aids for elderly<br>2.4 Outcome measures of Hearing aid benefits<br>2.5 Assistive listening devices – types and selection | 15 hours |
| **Unit III** | **Implantable Hearing Devices**<br>3.1 Middle ear implants Implantable hearing aids- Types components,<br>Types, components, surgical approaches, risks, complications, candidacy, and contraindications<br>3.2 Implantable bone conduction devices- Types, components, surgical approaches, risks, complications, candidacy, and contraindications<br>3.3 Cochlear implants- Components, terminology, speech coding strategies, candidacy, contra- indications, advantages and complications, Mapping and issues related to CI.<br>3.4 Overview of Brainstem and Midbrain implants | 15 hours |
| **Unit IV** | **Mechano-Acoustic Couplers, Counseling and Troubleshooting Types of ear moulds**<br>4.1 Various procedures of making different types of ear moulds.<br>4.2 Various modifications of ear moulds and its effect on acoustic characteristics<br>4.3 Counseling on care and Maintenance of ear moulds.<br>4.4 Counseling on care, maintenance and troubleshooting of hearing aids and implantable vices.<br>4.5 Troubleshooting of hearing devices. | 15 hours |

**Practicum**

1. Administer a questionnaire to assess hearing aid benefit on 2 persons using hearing aids.
2. Carry out a role play activity of counseling a hearing aid user
3. Ear Molds
    - Take impression for the ear mold using different techniques, different methods and using different materials.
    - Make hard mold for any 2 ears.
    - Make soft mold for any 2 ears.
    - Make vent in hard molds you made.
4. Watch videos of BAHA, middle ear implant, cochlear implant
5. Create hypothetical cases (at least 5 different cases) who are candidates for cochlear implantation. Make protocol for recording an EABR.
6. List down the technological differences across different models of cochlear implants from different companies, their cost
7. Observation of mapping
8. Watching of videos on AVT
9. Watch video on cochlear implant surgery

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## Environmental Audiology: M6BLP1T4

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC-34** | **Theory** | **03** | **03** | **45** | **3 hrs.** | **20** | **80** | **100** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO 1:** Explain the effects of noise on various systems in the body, with special reference to auditory system.
**CO 2:** Select appropriate test/s and assess the effects of occupational noise.
**CO 3:** Independently assess various kinds of noise in the environment and its possible effects.
**C□ 4□□**Identify people at-risk of developing occupational hearing loss and plan effective hearing conservation program.
**CO 5:** Assess eligibility for compensation in individuals with NIHL.

| Unit | Title | 45 hrs./ semester |
|---|---|---|
| **Unit I** | **Overview, Types and Effects of Environmental Noise**<br>1.1 Definition of noise, sources –community, industrial, music, traffic and others, types – steady and non-steady<br>1.2 Effects of noise:<br>• Auditory effects of noise exposure: Historical aspects, TTS, factors affecting TTS, recovery patterns, PTS, Histopathological changes, Effect on communication, SIL, AI, Noy, PNdB, PNL, EPNL, NC curves, NRR, SNR. Effects on central auditory processing.<br>• Non-auditory effects of noise exposure: Physiological/somatic including vestibular effects, psychological responses, stress and health, sleep, audio- analgesia effects on CNS and other senses, effects on work efficiency and performance. | 12 hours |
| **Unit II** | **Audiological Evaluation of Individuals Exposed to Occupational Noise**<br>2.1 Case history<br>2.2 Audiometry in NIHL Pure tone audiometry<br>• Hearing screening<br>• Baseline and periodic monitoring tests, brief tone audiometry, correction for presbycusis<br>• Testing environment<br>• Extended high frequency audiometry<br>• Speech audiometry<br>• Speech perception tests in quiet and in presence of noise<br>2.3. Other audiological evaluations: immittance evaluation, AEP, OAE, Tests for susceptibility. | 11 hours |

| | | |
|---|---|---|
| **Unit III** | **Noise and Vibration Measurements**<br>3.1 Instrumentation<br>3.2 Procedure for indoor and outdoor measurement of ambient noise, noise survey, traffic noise, aircraft noise, community noise and industrial noise<br>3.3 Factors affecting noise and vibration measurement.<br>3.4 Reporting noise measurement including noise mapping.<br>• DRC – definition, historical aspects, use of TTS and PTS, information in establishing DRC.<br>• CHABA, AFR 160-3, AAOO, damage risk contours, Walsh-Healey Act, OSHA, EPA, Indian noise standards for firecrackers<br>5 Claims for hearing loss: Fletcher point-eight formula, AMA method, AAOO formula, California variation in laws, factors in claim evaluation, variations in laws and regulations, date of injury, evaluation of hearing loss, number of tests<br>3.6 Indian acts/regulations. | 11 hours |
| **Unit IV** | **Hearing Conservation**<br>4.1 Need for hearing conservation program.<br>4.2 Steps in hearing conservation program<br>4.3 Noise control: Engineering and administrative controls<br>4.4 Hearing protective device (HPDs)<br>• Types: ear plugs, earmuffs, helmets, special hearing protectors, merits and demerits of each type<br>• Properties of HPDs: attenuation, comfort, durability, stability, temperature, tolerance<br>• Outcome measures and evaluation of attenuation characteristics of HPDs<br>4.5 Noise conditioning/ Toughening | 11 hours |

**References**


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# Clinical (Speech-Language Pathology): M6BLP1P65

| Type of Course | Theory /Practical | Credits | Instruction hour/week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| DSC-35 | Practical | 02 | 09 | 140 | 10 | 40 | 50 |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** know (concepts), know how (ability to apply), show (demonstrate in a clinical diary/logbook based on clinical reports/recordings, etc.), and do (perform on patients/ client contacts) the following.

**Know:**

1. Procedures to assess motor speech disorders in adults.
2. Differential diagnosis of motor speech disorders in adults.
3. Procedures to assess individuals with adult language disorders, and other related abnormalities.

**Know-how:**

1. To administer at least two standard tests for adult language disorders.
2. To administer at least two standard tests/protocols for motor speech disorders in adults.
3. To record a sample for analysis of language and speech skills in adults with neuro communication disorders.
4. To assess posture, breathing, speech and swallowing in adults with motor speech disorders.
5. To consult with inter-disciplinary medical/rehabilitation team and counsel the individual/family regarding management options and prognosis.
6. To administer at least two more (in addition to earlier semester) standard tests for childhood language disorders.
7. Counselling for children with speech-language disorders.

**Show:**

1. Language assessment - minimum of 2 individuals after stroke.
2. Associated problems in individuals after stroke and its evaluation.
3. Dysphagia assessment – minimum of 2 children &adults.
4. Goals and activities for therapy (including AAC) based on assessment/test results for adults with neuro-communication disorders.
5. Pre –therapy assessment and lesson plan for children with speech and language - minimum of 2 children each.

**Do:**

1. Bed side evaluation of individuals with neuro-communication disorders – Minimum of 2 individuals.
2. Apply 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.
3. Case history - minimum of 2 children with speech and language disorders.

# Clinical (Audiology): M6BLP1P6

| Type of Course | Theory /Practical | Credits | Instruction hour/week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|
| **DSC-36** | **Practical** | **02** | **09** | **140** | **10** | **40** | **50** |

**General considerations**:

- Exposure is primarily aimed to be linked to the theory courses covered in the semester, however, not just limited to these areas.
- After completion of clinical postings in auditory diagnostics and auditory rehabilitation, the student will Know (concept), know how (ability to apply), show (demonstrate in a clinical diary/log book), and do (perform on patients/ client contacts) the following:

**Know:**

1. National and international standards related to noise exposure.
2. Recommend appropriate treatment options such as speech reading, AVT, combined approaches etc.

**Know-how**:

1. To carryout noise survey in Industry and community.
2. To carryout mapping of cochlear implant in infants and children using both objective and subjective procedures.
3. To trouble shoot cochlear implant.

**Show:**

1. Analysis of objective responses like compound action potential, stapedial reflexes on at least 3 samples.
2. Comprehensive hearing conservation program for at least 1 situation.

**Do:**

1. AVT on at least 1 child with hearing impairment
2. Trouble shooting and fine tuning of hearing aids on at least 5 geriatric clients.
3. At least one activity for different stages involved in auditory training.

## E 2–Speech-Language Pathology and Audiology in Practice: M6BLP1T7

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC- 37** | **Theory** | **03** | **03** | **45 hours** | **3 hours** | **40** | **60** | **100** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**CO1:** List and describe the highlights of legislations relating to speech and hearing disabilities. Incorporate ethical practices in professional activities.

**CO2:** Provide information on the facilities available for the speech and hearing disabled including welfare measures and policies of government.

**CO3:** Describe different strategies to create awareness of speech and hearing impairment and facilities available to take care of them.

**CO4:** Familiarizing different clinical setups for the rehabilitation of speech and hearing disorders, with reference to their requirement, protocols and role and responsibility of the professionals.

**CO5:** Familiarizing terminology, technology and methods used in public education, clinical practice including tele practice and camps.

**CO6:** And their application in speech and hearing service delivery.

| Unit | Title | 45 hrs. / semester |
|---|---|---|
| **Unit I** | **Introduction to the Speech –Language Pathology and Audiology in Practice**<br>1.1 Epidemiology of speech and hearing disorders<br>1.2 Need for rehabilitation and steps involved in rehabilitation.<br>1.3 ICD and ICF<br>1.4 Levels of prevention: Primary, secondary and tertiary<br>1.5 National programs and efforts by the professionals including India in the process of rehabilitation.<br>1.6 Organizing camps, screening (need, purpose, planning, organizing, and conducting including providing remedial measures to the needy)<br>1.7 Public education and information (media, radio broadcasts, street plays)<br>1.8 Functions of speech & hearing centers in different set-ups<br>1.9 Private practice, evidence-based practice, Government organizations, NGOs<br>1.10 Role of itinerant speech therapist, anganwadis, resource teachers, etc.<br>1.11 Community based rehabilitation and other methods of integration of the disabled in the society. | 12 hours |
| **Unit II** | **Public Laws Related to Disability**<br>2.1 Scope of practice in speech and hearing (National & International bodies) | 11 hours |

| | | |
|---|---|---|
| | 2.2 Professional ethics<br>2.3 Rehabilitation Council of India and Disability related acts in India<br>2.4 Consumer protection Act and other public laws.<br>2.5 Disability related Acts pertaining to Education and welfare of persons with disability in international perspective-UNCRPD.<br>2.6 Welfare measures available for persons with speech language and hearing disability<br>2.7 Certification of persons with speech language and hearing disability<br>2.8 Concept of barrier free access and universal design relating to individuals with speech and hearing impairment | |
| **Unit III** | **Organization and Administration of Speech-Language and Hearing Centers and Public Education**<br>3.1 Setting up a speech-language and hearing center.<br>3.2 Organization of space, time, personnel, and audiometric rooms.<br>3.3 Budgeting and, financial management<br>3.4 Purchase formalities<br>3.5 Recruiting personnel – rules and salary<br>3.6 Leave rules and other benefits for professionals and personnel<br>3.7 Documents and record keeping – different types.<br>3.8 Public education methods<br>3.9 Organizing workshops, seminars, and conferences. | 11 hours |
| **Unit IV** | **Scope and Practice of Tele-Assessment & -Rehabilitation**<br>4.1 Introduction to tele-health: definition, history of tele-health<br>4.2 Terminologies-tele-health, tele medicine, telepractice<br>4.3 Connectivity: internet, satellite, mobile data<br>4.4 Methods of tele-practice-store and forward and real time<br>4.5 Ethics and Regulations for telepractice<br>4.6 Requirements/Technology for tele- practice: Web based platforms, Video conferencing, infrastructure.<br>4.7 Manpower at remote end and speech-language pathologist/audiologist end, training assistants for tele-practice<br>4.8 Audiological screening using tele-technology: newborn hearing screening, school screening, community screening, counselling.<br>4.9 Diagnostic services using tele-technology: video otoscopy, pure tone audiometry, speech audiometry, otoacoustic emission, tympanometry, auditory brainstem response. | 11 hours |

**Practicum**

1. Attend camps, seminars, workshops, conferences, schools creening, community-based screening.
2. Undertake the activities such as ‘Dangerous decibel” program (www.dangerousdecibels.org)
3. Visit a speech pathologist/audiologist in different practice settings and provide are port.

4. Administer ICF protocols for patients with different disorders.
5. Explore websites of various institutions, hearing aid companies, NGOs working with disabled and describe the accessibility features and information provided.
6. Develop one pamphlet/poster/ in local language that would address some aspect of speech and hearing practice.
7. Perform accessibility ability of your institute/center and prepare are port.

**References**


1. 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.
2. Bergland, B., Lindwall, T., Schwela, D.H., eds (1999). Guidelines on Community Noise http://www.who.int/docstore/peh/noise/guidelines2.html WHO 1999
3. BIS specifications relating to Noise Measurements.- IS:7194-1973 Specification for assessment of noise exposure during work for hearing conservation purposes.
4. Census of India information on disability
5. Dobie, R. A (2001). Medical legal evaluation of hearing loss, 2nd Ed. Hearing health and strategies for prevention of hearing impairment WHO (2001).
6. International classification of Functioning, Disability and Health. Geneva: WHO
7. http://www.asha.org/Practice-Portal/Professional-Issues/Audiology-Assistants/Teleaudiology-Clinical Assistants/
8. http://www.asha.org/uploadedFiles/ModRegTelepractice.pdf
9. IS:10399-1982 Methods for measurement of noise emitted by Stationary vehicles
10. IS:6229-1980 Method for measurement of real-ear
11. IS:9167-1979 Specification for ear protectors.
12. 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.
13. IS:9989-1981 Assessment of noise with respect to community response.
14. 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

## E 2–Educational Audiology: M6BLP1T8

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Duration of Exam | Formative Assessment Marks | Summative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|---|---|
| **DSC- 37** | **Theory** | **03** | **03** | **45 hours** | **3 hours** | **40** | **60** | **100** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**Course outcome**

After studying the paper the students are expected to realize the following:

- Effects of hearing loss on development and learning
- To analyse the client scenarios and decide what kind of intervention to be provided to the child with hearing loss in the school
- Become aware of criteria for selection of appropriate educational placement of the child
- To apply principles of effective management in classroom/school settings
- Roles of educational agencies and legal agencies for children with disability in India

| | | |
|---|---|---|
| Unit 1 | **Importance of Early Identification and Different Approaches for Communication**<br>1.1 Classification of hearing impairment and its importance in educational placement<br>1.2 Role and responsibilities of Educational Audiologist and team members<br>1.3 Early identification and its importance in aural rehabilitation.<br>1.4 Unisensory vs. multisensory approach<br>1.5 Manual vs. oral form of communication manual communication systems that parallel English (Manual alphabet); interactive systems (cued speech: Rochester method); Those alternative to English (ASL) Indian Sign Language, Contrived system (SEE-I, SEE-II, Signed English)<br>1.6 Total communication | 12 hours |
| Unit 2 | **Methods of Teaching Language for Children with Hearing Impairment-**<br>2.1 Methods of teaching language to the hearing impaired and its application in Indian languages<br>2.2 Natural method: maternal reflective method, Groth's method<br>2.3 Structured method (grammatical method); Fitzgerald key, box technique APPLE TREE, Patterning<br>2.4 Combined method (Natural and structured) Computer aided method. | 11 hours |
| Unit 3 | **Educational Placement**<br>3.1 Educational placement of hearing impaired children: Preschool training, Integration, Partial integration, Segregation: day school vs. residential school, Inclusive vs intergrated school.<br>3.2 Criteria for recommending the various educational placements<br>3.3 Criteria for selecting the medium of instruction<br>3.4 Factors affecting their outcome.<br>3.5 Setting-up classrooms and the modifications for the individuals with hearing | 11 hours |

| | | |
|---|---|---|
| | impairment: Acoustic, lighting, class strength and amplification and personal and group amplification devices<br>3.6 Educational problems of the individuals with hearing impairment and the measures taken to overcome the problems in India | |
| Unit 4 | **Educational Problems, Laws and Policies for Educating and Counseling Parents-**<br>4.1 Educational laws and policies with respect to education for children with disability by government and non-government agencies<br>4.2 Recommendations of PWD and UNCRPD for education, Rehabilitation Council of India Act (1992), Persons with Disabilities Act (1995), Right to Education Act (RTE), IEDC Scheme 1992, DPEP scheme, Salamanca statement and Framework for Action on Special Needs Education (1994), Kothari Commission (1992), Rights of disabled, Sarva Siksha Abhiyan<br>4.3 Education for children with multiple disabilities<br>4.4 Counseling the parents, teachers and peers regarding the education ofthe individuals with hearing impairment in India<br>4.5 Home training – need, preparation of lessons, long term vs short term plans and activities, correspondence programs, follow-up. | 11 hours |

**References**


1. Lynas,W. (2000).Communication options. In J. Stokes (Ed). Hearing impaired infants – Support in the first eighteen months. London: Whurr PublishersLtd.
2. Alpiner, J.G.(1982). Handbook of adult rehabilitative audiology. Baltimore: Williams &Wilkins.
3. Chermak, G.D. (1981). Handbook of audiological rehabilitation. C.C. Thomas Hull, R.H. (Ed) (1982). Rehabilitative Audiology. New York: Grune and Stratton
4. Inc.
5. Northern, J.L, & Downs, M.P. (1991). Hearing in children. 4th Edn.
6. Baltimore,MD: Williams and Wilkins.
7. Peter, V. Paul. (2009). Language and Deafness. (Ed). Sudbury, MA: Jones & Bartlett Learning.
8. Indian Sign Language Dictionary (2002). Sri Ramakrishna Mission Vidhyalaya. International Human Resource Development Centre (IHRDC) for the disabled, Coimbatore. A project supported by CBM international, Germany.
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11. Ross, M., Brackett, D. & Maxon, A.B. (1991). Assessment and management of mainstreamed hearing impairment children: Principles and practice. Austin: Pro. Ed.
12. Webster, A. & Ellwood, J. (1985). The hearing impaired child in the ordinary school. London: Croom Helm.
13. Cheryl, J., & Jane, S. (2011). Educational Audiology Handbook, Edition 2, Publisher Cengage Learning.
14. Correspondence program for Parents of the Deaf, John Tracy Clinic.

15. Madhumita,P.,&George,A.(2004).HandbookofInclusiveEducationforEducators, Administrators and Planners, PublisherSAGE.
16. Umesh, S., & Joanne. D. (2005). Integrated Education in India: Challenges and Prospects. Disability Studies Quarterly, Winter, Volume 25, No. 1.
17. The Standard Rules of the United Nations (1996). An easy to read version of the Standard Rules on the equalization of opportunities for persons with disabilities. Stockholm: Kitte Arvidsson & Easy-To-Read Foundation.

| **Formative Assessment for Theory** | |
|---|---|
| **Assessment Occasion/ type** | **Marks** |
| Internal Assessment Test 1 | 05 |
| Internal Assessment Test 2 | 05 |
| Assignment | 10 |
| **Total** | **20 Marks** |
| ***Formative Assessment as per guidelines.*** | |

**GENERAL PATTERN OF THEORY QUESTION COURSE FOR DSC/ EC/AECC**

**(80 marks for semester end Examination with 3 hours duration)**

**Part-A**

1. Question number 1-10 carries 2 marks each. Answer all questions : 20 marks

**Part-B**

**2.** Question number 11-18 carries 5 Marks each. Answer any 6 questions : 30 marks

**Part-C**

**3.** Question number 19-22 carries 10 Marks each. Answer any 03 questions : 30 marks

(Minimum 1 question from each unit and 10 marks question may have sub

questions for 7+3 or 6+4 or 5+5 if necessary

**Total : 80 Marks**

**Note: Proportionate weight age shall be given to each unit based on number of hours Prescribed**

## GENERAL PATTERN OF PRACTICAL EXAMINATION

**(40 marks for semester end Examination with 2 hours duration)**

| Sl. No. | Domain | Marks |
|---|---|---|
| 1 | Accuracy | 10 |
| 2 | Skill | 10 |
| 3 | Graphs and Diagrams | 10 |
| 4 | Report Submission | 5 |
| 5 | Viva | 5 |
| Total | | 40 |

**BASLP Semester –VII (Internship)**

# M 7 BLP 9 P 1–: Clinical speech language pathology

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|
| **DSC- 38** | **P** | **11** | **18** | **90** | **200** | **200** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**Able to perform screening to identify various speech and language disorders**

**Able to perform complete diagnostic assessment of various speech and language disorders**

**Able to perform treatment for various speech and language disorders**

| SI No | Content |
|---|---|
| 1 | Diagnosis and management of speech, language, and swallowing disorders across the life span. |
| 2 | Report evaluation findings, counsel, make appropriate referrals and liaise with professionals from related fields. |
| 3 | Plan and execute intervention and rehabilitation programs for persons with speech language, communication, and swallowing disorders. |
| 4 | Develop and maintain clinical documentation related to persons with speech-language, communication, and swallowing disorders |
| 5 | Engage in community-related services such as camps, awareness programs specifically, and community-based rehabilitation activities, in general. |
| 6 | Gain experience in different set-ups and be able to establish speech centers indifferent set-ups |
| 7 | Advise on the welfare measures available for their clinical clientele and their families. |
| 8 | Advise and fit appropriate aids and devices for the clinical population. |
| 9 | Administer quality of life questionnaires on persons with communication disorders. |
| 10 | Make appropriate referrals and liaise with professionals from related fields. |
| 11 | Gain experience in different clinical set ups and be able to establish speech-language centers. |
| 12 | Advise on the welfare measures available for their clinical clientele and their families. |

## Assessment

**Distribution of marks**

| SI No | Domain | Marks |
|---|---|---|
| 1 | Case presentation and report submission 1 | 50 |
| 2 | Case presentation and report submission 2 | 50 |
| 3 | Interaction and performance | 50 |
| 4 | Development of material | 50 |
| **Total** | | **200** |

**Note:**

Evaluation of internship to be done by 2 examiners. One must be the mentor from the institute and other must be external examiner in the BOE list

Assessment must be formative with 2 examiners as above

Assessment should be completed before the closure of the given semester

## References:


1. Roth, F. P. & Worthington, C. K. (2016). Treatment resource manual for speech language pathology. 5th Ed., Delmar, USA: Cengage Learning.
2. Logemann, J. A. (1998). Evaluation and treatment of swallowing disorders (2nd Ed.). Texas: Pro-ed. An international publisher.
3. Freed, D. (2000). Motor speech disorders: Diagnosis and management. New York, USA: Delmar Cengage learning.
4. Kummer, A.W. (2014). Cleft Palate and Craniofacial Anomalies: The Effects on Speech and Resonance. Delmar, Cengage Learning.
5. Guitar, B. (2014). Stuttering-An Integrated Approach to its Nature and Treatment. 4th Ed. Baltimore, Lippincott Williams & Wilkins.
6. Kent, R.D. & Read, C. (2002). The Acoustic analysis of speech, 2nd Ed. Delmar, Singular Publisher.
7. Greene, M. C. L., & Mathieson, L. (1989). The Voice and its Disorders. London: Whurr Publishers
8. Shipley.K.G., &Mc Afee, J.G (2008) Assessment in Speech-Language Pathology: A resource manual.

**BASLP Semester –VII (Internship)**

# M 7 BLP 9 P 2–: Clinical – Audiology

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|
| **DSC- 39** | **P** | **11** | **18** | **90** | **200** | **200** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**Able to perform screening to identify various hearing and balance related problems**

**Able to perform complete diagnostic assessment of various hearing and balance related problems**

**Able to perform treatment for various disorders related to hearing and balance**

| **SI No** | **Content** |
|---|---|
| 1 | Carry out screening for hearing and balance problems across life span |
| 2 | Assess and diagnose of hearing disorders across life span. |
| 3 | Prepare audiological report, counsel and make appropriate referrals. |
| 4 | Plan and execute intervention and rehabilitation programs for persons with hearing disorders |
| 5 | Document records related to persons with hearing disorders |
| 6 | Engage in community related services such as camps, awareness programs specifically, and community-based rehabilitation activities, in general. |
| 7 | Make appropriate referrals and liaise with professionals from related fields. |
| 8 | Be able to establish Audiology clinics in different set-ups |
| 9 | Advise on the welfare measures available for their clinical clientele and their families. |
| 10 | Advise and fit appropriate aids and devices for their clinical population. |

**Assessment**

| SI No | Domain | Marks |
|---|---|---|
| 1 | Case presentation and report submission 1 | 50 |
| 2 | Case presentation and report submission 2 | 50 |
| 3 | Interaction and performance | 50 |
| 4 | Development of material | 50 |
| **Total** | | **200** |

**Note:**

Evaluation of internship to be done by 2 examiners. One must be the mentor from the institute and other must be external examiner in the BOE list

Assessment must be formative with 2 examiners as above

Assessment should be completed before the closure of the given semester

**References:**


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.
4. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology (12 edition). Boston:Pearson.
5. Roeser, R. J., Valente, M., & Hosford-Dunn, H. (2007). Audiology: Diagnosis. Thieme.
6. Stach, B. A. (2010). Clinical audiology: an introduction (2nd ed). Clifton Park, NY: Delmar Cengage Learning.

**BASLP Semester –VIII (Internship)**

# M 8 BLP 9 P 1–: Clinical speech language pathology

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|
| **DSC- 40** | **P** | **11** | **18** | **90** | **200** | **200** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**Able to perform screening to identify various speech and language disorders**

**Able to perform complete diagnostic assessment of various speech and language disorders**

**Able to perform treatment for various speech and language disorders**

| SI No | Content |
|---|---|
| 1 | Diagnosis and management of speech, language, and swallowing disorders across the life span. |
| 2 | Report evaluation findings, counsel, make appropriate referrals and liaise with professionals from related fields. |
| 3 | Plan and execute intervention and rehabilitation programs for persons with speech language, communication, and swallowing disorders. |
| 4 | Develop and maintain clinical documentation related to persons with speech-language, communication, and swallowing disorders |
| 5 | Engage in community-related services such as camps, awareness programs specifically, and community-based rehabilitation activities, in general. |
| 6 | Gain experience in different set-ups and be able to establish speech centers indifferent set-ups |
| 7 | Advise on the welfare measures available for their clinical clientele and their families. |
| 8 | Advise and fit appropriate aids and devices for the clinical population. |
| 9 | Administer quality of life questionnaires on persons with communication disorders. |
| 10 | Make appropriate referrals and liaise with professionals from related fields. |
| 11 | Gain experience in different clinical set ups and be able to establish speech-language centers. |
| 12 | Advise on the welfare measures available for their clinical clientele and their families. |

**Assessment**

| SI No | Domain | Marks |
|---|---|---|
| 1 | Case presentation and report submission 1 | 50 |
| 2 | Case presentation and report submission 2 | 50 |
| 3 | Interaction and performance | 50 |
| 4 | Development of material | 50 |
| **Total** | | **200** |

**Note:**

Evaluation of internship to be done by 2 examiners. One must be the mentor from the institute and other must be external examiner in the BOE list

Assessment must be formative with 2 examiners as above

Assessment should be completed before the closure of the given semester

**References:**


1. Roth, F. P. & Worthington, C. K. (2016). Treatment resource manual for speech language pathology. 5th Ed., Delmar, USA: Cengage Learning.
2. Logemann, J. A. (1998). Evaluation and treatment of swallowing disorders (2nd Ed.). Texas: Pro-ed. An international publisher.
3. Freed, D. (2000). Motor speech disorders: Diagnosis and management. New York, USA: Delmar Cengage learning.
4. Kummer, A.W. (2014). Cleft Palate and Craniofacial Anomalies: The Effects on Speech and Resonance. Delmar, Cengage Learning.
5. Guitar, B. (2014). Stuttering-An Integrated Approach to its Nature and Treatment. 4th Ed. Baltimore, Lippincott Williams & Wilkins.
6. Kent, R.D. & Read, C. (2002). The Acoustic analysis of speech, 2nd Ed. Delmar, Singular Publisher.
7. Greene, M. C. L., & Mathieson, L. (1989). The Voice and its Disorders. London: Whurr Publishers
8. Shipley.K.G., &Mc Afee, J.G (2008) Assessment in Speech-Language Pathology: A resource manual.

**BASLP Semester –VIII (Internship)**

# M 8 BLP 9 P 2–: Clinical – Audiology

| Type of Course | Theory /Practical | Credits | Instruction hour per week | Total No. of Lectures / Hours per Semester | Formative Assessment Marks | Total Marks |
|---|---|---|---|---|---|---|
| **DSC-41** | **P** | **11** | **18** | **90** | **200** | **200** |

**Course Outcomes (COs): At the end of the course students will be able to:**

**Able to perform screening to identify various hearing and balance related problems**

**Able to perform complete diagnostic assessment of various hearing and balance related problems**

**Able to perform treatment for various disorders related to hearing and balance**

| **SI No** | **Content** |
|---|---|
| 1 | Carry out screening for hearing and balance problems across life span |
| 2 | Assess and diagnose of hearing disorders across life span. |
| 3 | Prepare audiological report, counsel and make appropriate referrals. |
| 4 | Plan and execute intervention and rehabilitation programs for persons with hearing disorders |
| 5 | Document records related to persons with hearing disorders |
| 6 | Engage in community related services such as camps, awareness programs specifically, and community-based rehabilitation activities, in general. |
| 7 | Make appropriate referrals and liaise with professionals from related fields. |
| 8 | Be able to establish Audiology clinics in different set-ups |
| 9 | Advise on the welfare measures available for their clinical clientele and their families. |
| 10 | Advise and fit appropriate aids and devices for their clinical population. |

**Assessment**

| SI No | Domain | Marks |
|---|---|---|
| 1 | Case presentation and report submission 1 | 50 |
| 2 | Case presentation and report submission 2 | 50 |
| 3 | Interaction and performance | 50 |
| 4 | Development of material | 50 |
| **Total** | | **200** |

**Note:**

Evaluation of internship to be done by 2 examiners. One must be the mentor from the institute and other must be external examiner in the BOE list

Assessment must be formative with 2 examiners as above

Assessment should be completed before the closure of the given semester

**References:**


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.
4. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology (12 edition). Boston:Pearson.
5. Roeser, R. J., Valente, M., & Hosford-Dunn, H. (2007). Audiology: Diagnosis. Thieme.
6. Stach, B. A. (2010). Clinical audiology: an introduction (2nd ed). Clifton Park, NY: Delmar Cengage Learning.