



KARNATAK UNIVERSITY, DHARWAD
ACADEMIC (S&T) SECTION
ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ
ವಿದ್ಯಾಮಂಡಳ (ಎಸ್ & ಟಿ) ವಿಭಾಗ



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NAAC Accredited
'A' Grade 2014

website: kud.ac.in

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Date: 10/10/2022

ಅಧಿಸೂಚನೆ

- ವಿಷಯ: 2022-23ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ B.Sc (Pulp & Paper) ಮತ್ತು B.A.S.L.P. ಸ್ನಾತಕ ಪದವಿಗಳಿಗಾಗಿ Apprenticeship / Internship embedded Degree Programmeಗಳ 1 ಮತ್ತು 2ನೇ ಸೆಮಿಸ್ಟರ್ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಿರುವ ಕುರಿತು.
- ಉಲ್ಲೇಖ: 1. ಬಿ.ಎನ್.ಡಿಗ್ರಿ ಕಾಲೇಜು, ದಾಂಡೇಲಿ ಇವರ ಪತ್ರ ಸಂ.163, ದಿ: 15.09.2022 ಮತ್ತು ಜಿ.ಎಸ್.ಎಸ್. ಮಹಾವಿದ್ಯಾಲಯ, ಕೆಲಗೇರಿ, ಧಾರವಾಡ ಇವರ ಪತ್ರ ಸಂ.291, ದಿ: 16.09.2022
2. ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂ. 18, ದಿನಾಂಕ: 17.09.2022
3. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 10.10.2022.

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳಿಗೆ ಸಂಬಂಧಿಸಿದಂತೆ, ಯು.ಜಿ.ಸಿ. ನಿಯಮಾವಳಿ ಅನುಸಾರ, ಸಿ.ಬಿ.ಸಿ.ಎಸ್. ಮತ್ತು NEP-2020 ಪದ್ಧತಿಯಂತೆ ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳಿಗೆ ಹೊಸದಾಗಿ ಪ್ರಾರಂಭವಾಗಿರುವ B.Sc (Pulp & Paper) ಮತ್ತು B.A.S.L.P. ಸ್ನಾತಕ ಪದವಿಗಳಿಗಾಗಿ Apprenticeship / Internship embedded Degree Programmeಗಳ 1 ಮತ್ತು 2ನೇ ಸೆಮಿಸ್ಟರ್ ಪಠ್ಯಕ್ರಮವನ್ನು ರಚಿಸಿ 2022-23ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಜಾರಿಗೆ ಬರುವಂತೆ ಈ ಮೂಲಕ ಅಧಿಸೂಚನೆ ಹೊರಡಿಸಲಾಗಿದೆ. ಸದರ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. www.kud.ac.in ಅಂತರ್ಜಾಲದಿಂದ ಡೌನ್‌ಲೋಡ್ ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತಾ, ವಿದ್ಯಾರ್ಥಿಗಳ ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ ತಂದು ಅದರಂತೆ ಕಾರ್ಯಪ್ರವೃತ್ತರಾಗಲು ಕವಿವಿ ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಸೂಚಿಸಲಾಗಿದೆ.

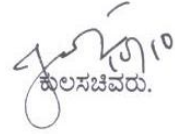
ಅಡಕ: ಮೇಲಿನಂತೆ

ಗೆ,

1. ಪ್ರಾಚಾರ್ಯರು, ಬಿ.ಎನ್. ಪದವಿ ಮಹಾವಿದ್ಯಾಲಯ, ದಾಂಡೇಲಿ.
2. ಪ್ರಾಚಾರ್ಯರು, JSS Inst. Of Speech & Hearing, Near Tapovana, Sri Shivarathreshwara Nagar, Kelageri, Dharwad-580007.

ಪ್ರತಿ:

1. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಭಿವೃದ್ಧಿ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ), ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಡಾ. ಎಸ್.ಎಂ.ತುವಾರ, ಮುಖ್ಯ ನೋಡಲ್ ಅಧಿಕಾರಿ ಮತ್ತು ಸಹಪ್ರಾಧ್ಯಾಪಕರು, ರಸಾಯನಶಾಸ್ತ್ರ ವಿಭಾಗ, ಕರ್ನಾಟಕ ವಿಜ್ಞಾನ ಮಹಾವಿದ್ಯಾಲಯ, ಧಾರವಾಡ.
4. ಡಾ. ಶಿವಶಂಕರ ಎಸ್., ಸಹ ನೋಡಲ್ ಅಧಿಕಾರಿ ಮತ್ತು ಪ್ರಾಧ್ಯಾಪಕರು, ಸ್ನಾತಕೋತ್ತರ ಗಣಕಯಂತ್ರ ವಿಭಾಗ, UUCMS ಘಟಕ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಐ.ಟಿ. ಶಾಖೆ, ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
6. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
7. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
8. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಂಡಳ (ಪಿ.ಜಿ.ಪಿ.ಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.


ಕುಲಸಚಿವರು.



KARNATAK UNIVERSITY, DHARWAD

**04 - Year BASLP - Embedded (Hon)
Programme**

SYLLABUS

Subject: Bachelor in Audiology and Speech Language

Pathology - Embedded (B.ASLP- Hon) Degree

[With effect from 2022-23]

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

OPEN ELECTIVE COURSE (OEC) FOR SEM I to II and

SKILL ENHANCEMENT COURSE (SEC) FOR SEM I

AS PER N E P - 2020

Karnatak University, Dharwad

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

Effective from 2021-22

Sem No.	DSC/ Type of Course	Theory/ Practical	Instruction per week	Total hours of Syllabus / Sem	Duration of Exam	Credit	Marks		
							Summative assessment	Formative assessment	Total
I	DSCT-1.1	Communication sciences: speech and language	4	56	2	4	60	40	100
	DSCT-1.2	Communication sciences: Audiology	3	42	2	3	60	40	100
	DSCT-1.3	Linguistics and phonetics	3	42	2	3	60	40	100
	OEC-1.1	Electronics and acoustics	3	42	2	3	60	40	100
	SEC-SB-1.1	Clinical –Speech Language Pathology	4	32	2	2	25	25	50
	DSCP-1.4	Clinical - Audiology	4	52	3	2	25	25	50
	SEC-VB-1.1	NSS/visual arts	--	--	2	2	25	25	50
	AECC-1.1	Kannada(L-1)	3	42	2	3	60	40	100
	AECC-1.2	English (L-2)	3	42	2	3	60	40	100
Total Credits						25			
II	DSCT - 2.1	Speech Language pathology assessment and management	4	56	2	4	60	40	100
	DSCT - 2.2	Audiological Evaluation	4	56	2	4	60	40	100
	SEC-VB-2.1	NSS/visual arts	--	--	2	2	25	25	50
	OEC-2.1	Clinical psychology	3	42	2	3	60	40	100
	DSCP-2.1	Clinical –Speech Language Pathology	4	52	3	2	25	25	50
	DSCP-2.2	Clinical - Audiology	4	52	3	2	25	25	50
	AECC-2.1	Kannada/Hindi(L-1)	3	42	2	3	60	40	100
	AECC-2.2	English (L-2)	3	42	2	3	60	40	100
	AECC-2.3	Environmental Study	2	30	1	2	30	20	50
Total credits						25			
Details of the other Semesters will be given later									

* Student can opt digital fluency as SEC or the SEC of the program

Name of Course (Subject): Bachelor in Audiology and Speech Language Pathology

Programme Outcome (PO):

On completion of the 03/ 04 years Degree in Bachelor in Audiology and Speech Language Pathology students will be able to:

PO1: The BASLP program is best suited for individuals with a passion to work among the differently-abled people in society.

PO2: In this course, the students learn about the normal aspects and disorders of speech, language, swallowing, and hearing.

PO3: They develop the necessary skills for evaluating, diagnosing, and treating communication as well as swallowing disorders, under the supervision of qualified Speech-Language Pathologists (SLPs) and Audiologists.

PO4: The overall goal of BASLP is to optimize and enhance the ability of an individual to hear, speak, and communicate

PO5: Upon completion of this degree, students are qualified to work as audiologists and SLPs.

PO6: Audiologists provide a comprehensive array of professional services related to the prevention, identification, diagnosis, and management of auditory and balance-related disorders.

PO7: SLPs provide a diverse range of professional services related to the prevention, identification, diagnosis, and management of speech, language, and swallowing-related disorders.

PO8: Audiologists and SLPs may also engage in research pertinent to all of the above-mentioned domains.

PO9: Audiologists and SLPs may work in a variety of settings including but not limited to: health care settings, regular and special schools, rehabilitation centers, industrial settings, hearing aid and cochlear implant manufacturers, manufacturers of devices and prosthesis for individuals with communication and swallowing disorders, universities/colleges, and their clinics, professional associations, state/central government agencies and institutions, research centers and private practice settings.

PO10: To build confidence in the candidate to be able to work in the society and institution of higher education.

BASLP - Embedded Semester –I

The course Bachelor in Audiology and Speech- Language Pathology in I semester has five papers (Theory Paper –3 for 10 credits & Practical-2 for 4 credits) for 14 credits: All the papers are compulsory. Details of the courses are as under.

DSCT-1.1 - Communication Sciences: Speech and Language: 131BLP011

Course No.	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
131BLP 011	DSCT 1.1	Theory	04	04	56 hrs	2hrs	40	60	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

DSCT-1.1 - Communication Sciences: Speech and Language: 131BLP011	Total Hrs:56
Unit-I	10 hrs
Basic Concepts in Speech, Language and Communication- 1.1 Definitions of communication, speech, language and their components and functions 1.2 Distinctions and similarities between communication, speech, and language 1.3 Basic models, levels and modes, and functions of speech communication 1.4 Speech chain, biological foundations of speech and language including speech as an overlaid function. 1.5 Characteristics of speech- normal, clear, and abnormal 1.6 Bases of speech – anatomical, physiological, neurological, physical, aerodynamic, linguistic, psychological, and socio-cultural including genetic bases.	
Unit-II	10hrs
Normal Developmental Aspects-. 2.1 Normal development of speech and language 2.2 Development of articulation 2.3 Development of voice 2.4 Development of fluency and prosody 2.5 Prerequisites for and factors affecting - speech and language development	

Unit-III	10 hrs
Basic Concepts Related to Incidence and Causative Factors- 3.1 Definition: Speech-Language Pathology 3.2 History and development of the profession of SLP including Indian context 3.3 Role of Speech-Language Pathologists in various settings 3.4 Causes of speech and language disorders 3.5 Basic epidemiologic concepts and principles and data sources and measurements 3.6 Population at risk for hearing loss and communication delay – at-risk children, established risk children, high-risk checklist. 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	10hrs
Introduction to Speech-Language and Swallowing Disorders: Classification and Characteristics- 4.1 Voice disorders- based on Pitch, Loudness, and Quality of voice 4.2 Phonological disorders - misarticulation, apraxia, and dysarthria 4.3 Fluency disorders - stuttering, cluttering, neurogenic stuttering 4.4 Language disorders – aphasia in children and adults, cerebral palsy, specific language impairment, and hearing impairment, Autism spectrum disorders, Learning disability, Intellectual disability. 4.5 Feeding and swallowing disorders	

SECTION B	
Unit I	
1.1 Preliminaries – The anatomical position, body planes, general anatomical terms, directions and locations, common anatomical terms 1.2 Overview of the embryology of the speech mechanism 1.3 Respiratory system – anatomy of the lower airway (trachea, lungs), physiology of breathing, volumes, and capacities 1.4 Phonatory system – anatomy of the larynx, vocal folds, physiology of larynx, voice production. 1.5 Resonatory and articulatory systems – anatomy of the pharynx, oral cavity and nasal cavity, physiology of resonatory and articulatory system – resonance and articulation.	8 hours
Unit II : Anatomy and Physiology of Central Nervous System-	
2.1 Anatomy: parts of the brain (CNS, PNS), hemispheres, lobes. 2.2 Physiology: CNS and PNS, functions of different parts of the brain 2.3 Cranial Nerves, cranial nerves important for speech & hearing functions 2.4 Overview of blood supply for brain and spinal cord	8 hours

Books recommended

SECTION A

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.
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, Massachusetts

DSCT-1.2 - Communication Sciences: Audiology: 131BLP012

Course No.	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
131BLP 012	DSCT 1.2	Theory	03	03	42 hrs	2hrs	40	60	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

DSCT-1.2 - Communication Sciences: Audiology: 131BLP012	Total Hrs: 42
Unit-I : Historical Aspects and Case History	10 hrs
1.1 Historical aspects <ul style="list-style-type: none"> • History of audiology • Medical and non-medical fields associated with audiology • Development of Audiology in India • Branches of Audiology • Scope of audiology 1.2 Case history <ul style="list-style-type: none"> • 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 1.3 Early hearing tests <ul style="list-style-type: none"> • Nature and properties of tuning fork • Tuning fork tests: Qualitative tests – Rinne, Weber, and Bing • Quantitative test: Schwabach • Interpretation, advantages, and disadvantages • The audiometric version of Weber and Bing test. • Tuning fork tests findings in different degrees and types of hearing loss. 	
Unit-II: Concept of dB and Threshold Measurements	10hrs
2.1 dB concept <ul style="list-style-type: none"> • Different aspects of the dB • Power and pressure formulae, zero dB reference for 	

<p>pressure and power</p> <ul style="list-style-type: none"> • Calculation of dB values from absolute values and vice-versa • Calculation of overall dB when two signals are superimposed, hearing level, sensation level • Application of dB <p>2.2 Threshold concept</p> <ul style="list-style-type: none"> • Threshold of audibility • MAP and MAF • Threshold of pain • Application of MAP and MAF 	
Unit-III: Properties of Sound	10 hrs
<p>3.1 Frequency: Concept – frequency, octave frequency, Psychophysical correlates, Factors affecting pitch</p> <p>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.</p> <p>3.3 Duration: Basic concept</p> <p>3.4 Differential sensitivity for intensity, frequency, and duration.</p>	
Unit-IV: Anatomy and Physiology of Auditory System	12hrs
<p>4.1 Overview of the embryology of the auditory mechanism</p> <p>4.2 External ear – anatomy and physiology of the pinna, external auditory canal</p> <p>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.</p> <p>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, summing potential theories of hearing in brief, modes of bone conduction, physiology of the SSC, utricles, and saccule.</p> <p>4.5 Auditory pathway and central hearing mechanism: Anatomy of the afferent and efferent auditory pathway, action potential.</p> <p>Introduction to Hearing Disorders: Classification and Characteristics-</p> <p>4.6 Different types of hearing loss, general characteristics of conductive, mixed, and sensorineural hearing loss</p> <p>4.7 Classification of causes of hearing loss. Causes of hearing impairment: hereditary hearing loss, congenital hearing loss, acquired hearing loss in children and adults, causes of central auditory disorders.</p>	

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DSCT 1.3: Linguistics &Phonetics: 131BLP013

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
131BLP 013	Theory	03	03hrs	42	2hr	40	60	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

DSCT 1.3: Linguistics &Phonetics: 131BLP013	Total Hrs: 42
Unit-I: Language and Linguistics	10 hrs
1.1 Introduction to Language- Definition, Characteristics of language, Functions of language, Difference between animal communication systems and human language. 1.2 An introduction to the language families of India and language families of the world. 1.3 Writing systems– History of writing systems, Types of writing systems, Indian writing systems 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. 1.5 Transcription systems with special emphasis on International Phonetic Alphabet (IPA); Basic Transcription practices.	
Unit-II: Morphology, Syntax, Semantics, and Pragmatics	10 hrs
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. 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. 2.3 A brief introduction to Semantics - homonyms, synonyms and antonyms, Semantic Feature Theory. 2.4 A brief introduction to Pragmatics – discourse; intent of communication	
Unit-III Phonetics and Phonology	10 hrs
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.	

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	12 hrs
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. 4.2 Issues in second language acquisition; differences between first language acquisition and second language acquisition/learning. Bilingualism in children- compound, coordinate, simultaneous, successive 4.3 Inter-language theory, Language transfer & Linguistic interference; Factors influencing second language acquisition/learning.	

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18. Carr, Philip (2003). *English Phonetics and Phonology: An Introduction*. Massachusetts, Blackwell Publishing.

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23. Kennison, S. (2013). *Introduction to language development*. Los Angeles, CA: Sage.
24. Nelson N. W (1998). *Childhood language disorders in context – infancy through adolescence*. Allyn and Bacon, Boston.
25. Pinker, Steven (2007). *The Language Instinct: How the Mind Creates Language (P.S.)*. Harper Perennial Modern Classics.
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27. Berk, Laura E. (2009). *Language Development*. Child development. Boston: Pearson Education/Allyn & Bacon.
28. Cook, V. and Singleton, D. (2014). *Key Topics in Second Language Acquisition*. Bristol: Multilingual Matters.
29. Foster-Cohen, S. (2009): *Language acquisition*. London: Palgrave Macmillan. Sousa, David A. (2011). *How the brain learns*. Thousand Oaks, Calif.: Corwin Press.
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OEC 1.1: Electronics and Acoustics: 131BLP051

Course No.	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
131BLP 051	OEC 1.1	Theory	03	03	42 hrs	2 hrs	40	60	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

OEC 1.1: Electronics and Acoustics: 131BLP051	Total Hrs: 42
Unit-I : Introduction to Electronics & Signal Processing	10 hrs
1.1 Basic principle of operation and working of <ul style="list-style-type: none"> • Resistors, variable resistor, capacitor inductor, semiconductor, and diodes • LEDs, seven-segment displays, LCDs • Introduction to signal processing • Amplification concept of gain and bandwidth • Frequency response 1.2 Power supply <ul style="list-style-type: none"> • Block diagram of DC power supply, description, and working of each block • AC power supply & voltage stabilization and servo-controlled method of stabilization • UPS and Inverters • Isolation transformer, AC power supply grounding 1.3 Fundamental of digital signal processing <ul style="list-style-type: none"> • Binary number system, logic gates, flip flops, and counters • Analog signal & digital signal –Representation and comparison • Converting analog signal to digital signal • The basic structure of a digital processing system • Converting digital signal to analog signal 1.4 Application of DSP <ul style="list-style-type: none"> • Analog signal processing Vs digital signal processing – Comparison, merits, and demerits • Applications of DSP in communication sciences and disorder. 	
Unit-II: Fundamentals of Acoustics-	10 hrs
2.1 Physics of Sound <ul style="list-style-type: none"> • Nature and Propagation of sound • Sound characteristics such as frequency, wavelength, amplitude • Pitch and Loudness- Sone, Phon, equal-loudness contour 	

<ul style="list-style-type: none"> • Sound pressure level and sound power level <p>2.2 Quality and properties of sound</p> <ul style="list-style-type: none"> • Time-domain and frequency domain representation • Acoustic Impedance <p>2.3 Acoustic Environment in closed rooms</p> <ul style="list-style-type: none"> • Reflection and absorption, reverberation • Background noise, speech to noise ratio • Techniques to reduce reverberation • Acoustically treated rooms – Basic requirements, concept, and structure. <p>2.4 Transducers, Sound Measurement, reproduction, and recording</p> <ul style="list-style-type: none"> • Microphones-Piezoelectric, moving coil, condenser, electrets, etc • Loudspeaker and their enclosures • Digital recording & audiometric transducers reproduction • Sound level meters & acoustic measurements 	
Unit-III : Introduction to Information Technology	10 hrs
<p>3.1 Introduction to computers</p> <ul style="list-style-type: none"> • SMPS, Hardware, Memory devices, and types of storage media • Specification of personal computers <p>3.2 Software</p> <ul style="list-style-type: none"> • Operating systems-Types, comparison, and functioning • Application software used in Communication Sciences and disorder • Mobile Apps-concept & functioning <p>3.3 Structure and functioning of internet and intranet</p> <ul style="list-style-type: none"> • Concept of internet and world wide web • Local Area Network – structure and components <p>3.4 Basic concept of Tele diagnosis & Tele rehabilitation</p>	
Unit-IV : Instrumentation in Speech, Language and Hearing	12 hours
<p>4.1 Introduction to electronic instrumentation</p> <ul style="list-style-type: none"> • Pre-amplifiers and Power amplifiers • Filters-different types and their frequency response <p>4.2 Principle of operation, a block diagram of</p> <ul style="list-style-type: none"> • The basic technology of analog and digital hearing aids • Audiometers • Immittance meters • Group amplification and Assistive Listening Devices • Speech spectrograph <p>4.3 Calibration of audiometers – Equipment, setup, and procedure.</p>	

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Course 1.6

SEC-SB 1.1: Clinical (Speech Language Pathology): 131BLP014

Course No.	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
131BLP 014	SEC-SB-1.1	Practical	02	4	56 Hrs	-	25	25	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 suprasegmentals 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 32 hrs / 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.

Scheme of Practical Examination (distribution of marks): 25 marks for Semester end examination

1. Practicum – 10 Marks

2. Viva- 15 Marks

Total 25 marks

Note: Same Scheme may be used for IA (Formative Assessment) examination

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.
3. Justice, L.M., & Redle, E, E. (2014). Communication sciences and disorders- A clinical evidence-based approach, Pearson education, Inc, USA.
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DSCP 1.1: Clinical (Audiology): 131BLP015

Course No.	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
131BLP 015	DSCP 1.1	Practical	02	4	56 hrs	-	25	25	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 52 hrs / 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.

Scheme of Practical Examination(distribution of marks): 25 marks for Semester end examination

1. Practicum – 10 Marks

2. Viva- 15 Marks

Total 25 marks

Note: Same Scheme may be used for IA (Formative Assessment) examination

Books recommended.

1. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology (12edition). 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. HanghtonPiter "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"LawrenceErlbaun Associates, Publishers 1998.
7. Yost "Directional Hearing" – Wiley 2000

Details of Formative assessment (IA)for DSCC theory/OEC: 40% weight age for total marks

Type of Assessment	Weight age	Duration	Commencement
Written test-1	15%	1 hr	8 th Week
Written test-2	15%	1 hr	12 th Week
Case study / Assignment / Field work / Project work/ Activity	10%	-----	--
Total	40% of the maximum marks allotted for the paper		

Faculty of Science
04 - Year UG Honors programme:2021-22
GENERAL PATTERN OF THEORYQUESTION PAPER FOR DSCC/ OEC
(60 marks for semester end Examination with 2 hrs duration)

Part-A

1. Question number 1-06 carries 2 marks each. Answer any 05 questions :10marks

Part-B

2. Question number 07- 11 carries 05Marks each. Answer any 04questions : 20 marks

Part-C

3. Question number 12-15 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: 60 Marks

Note: Proportionate Weightage shall be given to each unit based on number of hours prescribed.



As per the University Guidelines

AECC1.2: English

As per the University Guidelines

SEC VB: NSS & Visual arts

B.ASLP- Embedded Semester –II

Discipline Specific Course (DSC)

The course Bachelor in Audiology and Speech- Language Pathology in II semester has 4 papers (Theory Paper –2 for 8 credits & Practical-2 for 4 credits) for 12 credits: All the papers are compulsory. Details of the courses are as under.

DSCT 2.1: Speech-Language Pathology – Assessment and Management: 132BLP011

Course No.	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
132BLP 011	DSCT 2.1	Theory	04	04	56 hrs	2hrs	40	60	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

Unit-I: Overview of Procedures Involved in Speech-Language Diagnostics	14hrs
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 1.2 Basic terminologies and concepts 1.3 Introduction to diagnostics, Classification of disorders: DSM, ICD, terminologies in the diagnostic process, general principles of diagnosis, diagnostic setup, and tools. 1.4 Characteristics of a diagnostic clinician 1.5 Diagnostic setup and tools	
Unit-II: Diagnostic Models and Approaches	14 hrs
2.1 Diagnostic models and their application to communication disorders – SLPM, Wepman, Bloom, and Lahey 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	14 hrs
<p>3.1 General principles of speech and language therapy</p> <p>3.2 Models in Therapeutics and its application to Speech-Language Therapy: Medical model, Behavioural model, and Learning Models</p> <p>3.3 Approaches to speech and language therapy – Formal, informal, and eclectic approaches; Behaviourist, Linguistic-Cognitive and Social interactionist approach</p> <p>3.4 Strategies for speech and language therapy-Individual Specific and Developmental strategies</p> <p>3.5 Speech therapy set-up</p> <p>3.6 Individual and group therapy</p> <p>3.7 Integrated and Inclusive Education</p> <p>3.8 Tele practice and Apps</p>	
Unit-IV: Execution of Speech-Language Therapy, Documentation and Professional Codes	14hrs
<p>4.1 Planning for speech and language therapy – goals, steps, procedures, activities</p> <p>4.2 Techniques for Speech and language therapy for various disorders of speech and language in Children</p> <p>4.3 Importance of behavioral principles in speech and language therapy</p> <p>4.4 Counseling and Guidance -Facilitation of parent participation and transfer of skills</p> <p>4.5 Documentation of clinical records</p> <p>4.6 Evaluation of therapy outcome</p> <p>4.7 Ethics in diagnosis and speech-language therapy</p> <p>4.8 Self-appraisal of clinicians</p> <p>4.9 Professional code of conduct for clinicians</p>	

References

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2. Dodd, B. (2013). Differential diagnosis and treatment of children with speech disorder.(2nd Ed). NJ: Wiley.
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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

DSCT 2.2: Audiological Evaluation: 132BLP012

Course No.	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
132BLP 012	DSCT 2.2	Theory	04	04	56 hrs	2hrs	40	60	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	14hrs
<p>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.</p> <p>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.</p> <p>1.3 Audiogram, construction of audiogram, Symbols used, Interpretation of audiogram (degree, type & configuration), Usefulness of Audiogram</p> <p>1.4 Bone conduction (BC) Audiometry: Importance, challenges in bone conduction testing</p> <p>1.5 Methods to find threshold (AC & BC): Method of limits, Hughson & Westlake method, Modified Hughson Westlake Method, ASHA guidelines, ANSI guidelines</p> <p>1.6 Factors affecting AC and BC threshold, Limitations of Pure-tone Audiometry</p>	
Unit-II :Speech Audiometry	14 hrs
<p>2.1 Historical developments, rationale, and objectives</p> <p>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</p> <ul style="list-style-type: none"> • Correlation between PTA and speech audiometry results • PIPB function, Articulation Index, • National and International standards related to Speech Audiometry (ANSI, ISO, IEC, ASHA & IS/BIS), <p>2.3 Factors affecting speech audiometry, Limitations of Speech Audiometry</p> <p>2.4 Speech materials available in Indian languages and English for Speech Audiometry (SRT & SIS)</p>	

2.5 Loudness-based tests - MCL, UCL, Dynamic range - Definition, Materials used, Procedure, and Clinical Applications.	
Unit-III : Clinical Masking	14 hrs
<p>3.1 Definition, Terminology related to masking: Test ear, non-test ear, masker, masked, cross over, cross hearing, shadow curve, and central masking.</p> <p>3.2 Types of masking, Different types of stimuli used as maskers, Critical Band Concept.</p> <p>3.3 Interaural attenuation (IA), factors affecting IA. Criteria for masking during AC, BC, and factors considered.</p> <p>3.4 Factors determining the amount of masking noise- Minimum and Maximum effective masking level for AC and BC, speech.</p> <p>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)</p>	
Unit-IV: Calibration	14hrs
<p>4.1 Calibration of audiometers:</p> <ul style="list-style-type: none"> • Subjective/real ear calibration methods for AC and BC • 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 <p>4.2 Calibration of the speech stimulus</p> <p>4.3 Daily listening checks, application of correction factors.</p> <p>4.4. Artificial ear, Acoustic couplers, and Artificial mastoid</p>	

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5. Martin, F. N., & Clark, J. G. (2014). Introduction to Audiology. Boston: Pearson.

OEC 2.1: Clinical psychology: 132BLP053

Course No.	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
132BLP 053	OEC 2.1	Theory	03	03	42 hrs	2hrs	40	60	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 Hrs
1.1 Introduction to psychology: Definition, history & schools of psychology 1.2 Scope of psychology 1.3 Meaning & definition of clinical psychology 1.4 Historical development, the modern history of clinical psychology 1.5 Current status of clinical psychology 1.6 Scope as a specialty (clinical psychology) in health sciences 1.7 Role of clinical psychology in speech and hearing 1.8 Concept of normality 1.9 Concept of abnormality 1.10 Models of mental disorders: Biological, psychological and social models	
Unit 2: Clinical Methods	
2.1 Methods in clinical psychology <ul style="list-style-type: none"> • Case history • Clinical interviewing • Clinical observation • Definition & types of psychological testing • Assessment of cognitive functions • Adaptive functions, • Personality • Behavioral assessment 2.2 Classification of abnormal behavior <ul style="list-style-type: none"> • History, need & rationale of classification 2.3 Current classificatory systems: <ul style="list-style-type: none"> • DSM • ICD 	10 Hrs
Unit 3 : Developmental Psychology	
3.1 Child & developmental psychology: Meaning, definition & scope <ul style="list-style-type: none"> • Meaning of growth, development & maturation • Principles of child development 	10Hrs

<p>3.2 Motor development: general principles of motor development</p> <ul style="list-style-type: none"> Stages in motor development: early motor development, motor development during later childhood and adolescence, decline with age <p>3.3 Cognitive development: growth from early childhood to adolescence</p> <ul style="list-style-type: none"> Piaget's theory of cognitive development <p>3.4 Emotional development</p> <p>3.5 Social development</p> <p>3.6 Development of play behavior</p>	
Unit 4: Learning, Behaviour Modification and Counseling	
<p>4.1 Learning: Meaning, definition & characteristics</p> <p>4.2 Theories of learning:</p> <ul style="list-style-type: none"> Introduction Pavlov's classical conditioning: experiments & principles Skinner's operant conditioning: experiments & principles <p>4.3 Therapeutic techniques based on learning principles:</p> <ul style="list-style-type: none"> Skill behavior techniques Problem behavior techniques <p>4.4 Counselling: Introduction & definition</p> <p>4.5 Types of counseling: Directive & non-directive</p> <p>4.6 Characteristics of a good counselor</p> <p>4.7 Documentation in counseling and follow up methods</p>	12 Hrs

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- Anastasi, A. (1999). Psychological testing, London: Freeman
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DSCP 2.1: Clinical (Speech Language Pathology):132BLP014

Course No.	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
132BLP 014	DSCP 2.3	Practical	02	4	56 hrs	-	25	25	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 96 hrs / 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 + 3 children).
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.

DSCP 2.2: Clinical (Audiology):132BLP015

Course No.	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
132BLP 015	DSCP 2.2	Practical	02	4	56 hrs	-	25	25	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 52 hrs / 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 on 10 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.

Details of Formative assessment (IA) for DSCC theory/OEC: 40% weight age for total marks

Type of Assessment	Weight age	Duration	Commencement
Written test-1	15%	1 hr	8 th Week
Written test-2	15%	1 hr	12 th Week
Case study / Assignment / Field work / Project work/ Activity	10%	-----	--
Total	40% of the maximum marks allotted for the paper		

**Faculty of Science
04 - Year UG Honors programme: 2021-22**

**GENERAL PATTERN OF THEORYQUESTION PAPER FOR DSCC/ OEC
(60 marks for semester end Examination with 2 hrs duration)**

Part-A

1. Question number 1-06 carries 2 marks each. Answer any 05 questions : 10marks

Part-B

2. Question number 07- 11 carries 05Marks each. Answer any 04 questions : 20 marks

Part-C

3. Question number 12-15 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: 60 Marks

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



AECC2.1: Kannada/ Hindi

As per the University Guidelines

AECC2.2: English

As per the University Guidelines

AECC2.3: Environmental studies

As per the University Guidelines

SEC VB: NSS & Visual arts

**GENERAL PATTERN OF THEORYQUESTION PAPER FOR DSCC/ OEC
(60 marks for semester end Examination with 2 hrs duration)**

Part-A

1. Question number 1-06 carries 2 marks each. Answer any 05 questions :10marks

Part-B

2. Question number 07- 11 carries 05Marks each. Answer any 04questions : 20 marks

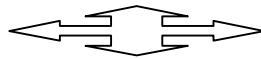
Part-C

3. Question number 12-15 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: 60 Marks

Note: Proportionate weightage shall be given to each unit based on number of hours prescribed.





KARNATAK UNIVERSITY, DHARWAD
ACADEMIC (S&T) SECTION
ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯ, ಧಾರವಾಡ
ವಿದ್ಯಾಮಂಡಳ (ಎಸ್ & ಟಿ) ವಿಭಾಗ



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No. KU/Aca(S&T)/SSL-394A/2022-23/1056

Date: 23 SEP 2022

ಅಧಿಸೂಚನೆ

- ವಿಷಯ: 2022-23ನೇ ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಎಲ್ಲ ಸ್ನಾತಕ ಕೋರ್ಸುಗಳಿಗೆ 3 ಮತ್ತು 4ನೇ ಸೆಮೆಸ್ಟರ್
NEP-2020 ಮಾದರಿಯ ಪಠ್ಯಕ್ರಮವನ್ನು ಅಳವಡಿಸಿರುವ ಕುರಿತು.
- ಉಲ್ಲೇಖ: 1. ಸರ್ಕಾರದ ಅಧೀನ ಕಾರ್ಯದರ್ಶಿಗಳು(ವಿಶ್ವವಿದ್ಯಾಲಯ 1) ಉನ್ನತ ಶಿಕ್ಷಣ ಇಲಾಖೆ ಇವರ
ಆದೇಶ ಸಂಖ್ಯೆ: ಇಡಿ 260 ಯುಎನ್‌ಇ 2019(ಭಾಗ-1), ದಿ:7.8.2021.
2. ವಿಜ್ಞಾನ & ತಂತ್ರಜ್ಞಾನ ನಿಖಾಯ ಸಭೆಯ ಠರಾವುಗಳ ದಿನಾಂಕ: 06.09.2022
3. ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ನಿರ್ಣಯ ಸಂ. 01, ದಿನಾಂಕ: 17.09.2022
4. ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶ ದಿನಾಂಕ: 22-09-2022

ಮೇಲ್ಕಾಣಿಸಿದ ವಿಷಯ ಹಾಗೂ ಉಲ್ಲೇಖಗಳನ್ವಯ ಮಾನ್ಯ ಕುಲಪತಿಗಳ ಆದೇಶದ ಮೇರೆಗೆ, 2022-23ನೇ
ಶೈಕ್ಷಣಿಕ ಸಾಲಿನಿಂದ ಅನ್ವಯವಾಗುವಂತೆ, ವಿಜ್ಞಾನ & ತಂತ್ರಜ್ಞಾನ ನಿಖಾಯದ ಎಲ್ಲ ಸ್ನಾತಕ ಕೋರ್ಸುಗಳ ರಾಷ್ಟ್ರೀಯ ಶಿಕ್ಷಣ ನೀತಿ
(NEP)-2020 ರಂತೆ 3 ಮತ್ತು 4ನೇ ಸೆಮೆಸ್ಟರ್‌ಗಳಿಗಾಗಿ ವಿಶೇಷ ವಿದ್ಯಾವಿಷಯಕ ಪರಿಷತ್ ಸಭೆಯ ಅನುಮೋದಿತ
ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಪ್ರಕಟಪಡಿಸಿದ್ದು, ಸದರ ಪಠ್ಯಕ್ರಮಗಳನ್ನು ಕ.ವಿ.ವಿ. www.kud.ac.in ಅಂತರ್ಜಾಲದಿಂದ ಡೌನ್‌ಲೋಡ
ಮಾಡಿಕೊಳ್ಳಲು ಸೂಚಿಸುತ್ತಾ, ವಿದ್ಯಾರ್ಥಿಗಳು ಹಾಗೂ ಸಂಬಂಧಿಸಿದ ಎಲ್ಲ ಬೋಧಕರ ಗಮನಕ್ಕೆ ತಂದು ಅದರಂತೆ
ಕಾರ್ಯಪ್ರವೃತ್ತಿಗಳು ಕವಿವಿ ಅಧೀನದ / ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ ಸೂಚಿಸಲಾಗಿದೆ.

ಅಡಕ: ಮೇಲಿನಂತೆ

Kud-2022
ಕುಲಸಚಿವರು.

ಗೆ,

ಕರ್ನಾಟಕ ವಿಶ್ವವಿದ್ಯಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ಎಲ್ಲ ಅಧೀನ ಹಾಗೂ ಸಂಲಗ್ನ ಮಹಾವಿದ್ಯಾಲಯಗಳ
ಪ್ರಾಚಾರ್ಯರುಗಳಿಗೆ. (ಕ.ವಿ.ವಿ. ಅಂತರ್ಜಾಲ ಹಾಗೂ ಮಿಂಚಂಚೆ ಮೂಲಕ ಬಿತ್ತರಿಸಲಾಗುವುದು)

ಪ್ರತಿ:

1. ಕುಲಪತಿಗಳ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
2. ಕುಲಸಚಿವರ ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
3. ಕುಲಸಚಿವರು (ಮೌಲ್ಯಮಾಪನ) ಆಪ್ತ ಕಾರ್ಯದರ್ಶಿಗಳು, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
4. ಅಧೀಕ್ಷಕರು, ಪ್ರಶ್ನೆ ಪತ್ರಿಕೆ / ಗೌಪ್ಯ / ಜಿ.ಎ.ಡಿ. / ವಿದ್ಯಾಂಡಳ (ಪಿ.ಜಿ.ಪಿ.ಎಚ್.ಡಿ) ವಿಭಾಗ, ಸಂಬಂಧಿಸಿದ
ಕೋರ್ಸುಗಳ ವಿಭಾಗಗಳು ಪರೀಕ್ಷಾ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.
5. ನಿರ್ದೇಶಕರು, ಕಾಲೇಜು ಅಭಿವೃದ್ಧಿ / ವಿದ್ಯಾರ್ಥಿ ಕಲ್ಯಾಣ ವಿಭಾಗ, ಕ.ವಿ.ವಿ. ಧಾರವಾಡ.



KARNATAK UNIVERSITY, DHARWAD

04 - Year BASLP (Hons.) Program

SYLLABUS

Subject: Bachelor in Audiology and Speech Language

Pathology (B.ASLP)

[Effective from 2021-22]

DISCIPLINE SPECIFIC CORE COURSE (DSCC) FOR SEM III & IV,

OPEN ELECTIVE COURSE (OEC) FOR SEM III & IV and

SKILL ENHANCEMENT COURSE (SEC) FOR SEM III & IV

AS PER N E P - 2020

Karnatak University, Dharwad

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

Sem No.	DSC/ Type of Course	Theory/ Practical	Instru ction per week	Total hours of Syllabus / Sem	Duration of Exam	Credit	Marks		
							Summative assessment	Formative assessment	Total
III	DSCT-3.1	Voice and its disorders	4	56	2	4	60	40	100
	DSCT-3.2	Diagnostic audiology-behavioral tests	4	56	2	4	60	40	100
	OEC-3.1	Speech sound disorders	3	42	2	3	60	40	100
	DSCP-3.1	Clinical -Slp	4	56	2	2	25	25	50
	DSCP-3.2	Clinical -Aud	4	56	2	2	25	25	50
	AECC-3.1	Theory(L-1)	3	42	2	3	60	40	100
	AECC-3.2	Theory (L-2)	3	42	2	3	60	40	100
	SEC-VB 3.1	NSS/visual arts	--	--	2	2	25	25	50
	SEC-SB-3.1	AI	--	--	2	2	25	25	50
Total Credits						25			
IV	DSCT -4.1	Fluency and its disorders	4	56	2	4	60	40	100
	DSCT -4.2	Diagnostic audiology – physiological tests	4	56	2	4	60	40	100
	OEC-4.1	Rehabilitative audiology	3	42	2	3	60	40	100
	DSCP-4.1	Clinical -Slp	4	56	2	2	25	25	50
	DSCP-4.2	Clinical -Aud	4	56	2	2	25	25	50
	AECC-4.1	Indian constitution	2	30	1	2	30	20	50
	AECC-4.2	Theory (L-1)	3	42	2	3	60	40	100
	AECC-4.3	Theory (L-2)	3	42	2	3	60	40	100
	SEC-VB 4.1	NSS/visual arts	--	--	2	2	25	25	50
Total credits						25			
Details of the other semesters will be given later									

Name of Course (Subject): Bachelor in Audiology and Speech Language Pathology

Programme Outcome (PO):

On completion of the 03/ 04 years Degree in Bachelor in Audiology and Speech Language Pathology students will be able to:

PO1: The BASLP program is best suited for individuals with a passion to work among the differently-abled people in society.

PO2: In this course, the students learn about the normal aspects and disorders of speech, language, swallowing, and hearing.

PO3: They develop the necessary skills for evaluating, diagnosing, and treating communication as well as swallowing disorders, under the supervision of qualified Speech-Language Pathologists (SLPs) and Audiologists.

PO4: The overall goal of BASLP is to optimize and enhance the ability of an individual to hear, speak, and communicate

PO5: Upon completion of this degree, students are qualified to work as audiologists and SLPs.

PO6: Audiologists provide a comprehensive array of professional services related to the prevention, identification, diagnosis, and management of auditory and balance-related disorders.

PO7: SLPs provide a diverse range of professional services related to the prevention, identification, diagnosis, and management of speech, language, and swallowing-related disorders.

PO8: Audiologists and SLPs may also engage in research pertinent to all of the above-mentioned domains.

PO9: Audiologists and SLPs may work in a variety of settings including but not limited to: health care settings, regular and special schools, rehabilitation centers, industrial settings, hearing aid and cochlear implant manufacturers, manufacturers of devices and prosthesis for individuals with communication and swallowing disorders, universities/colleges, and their clinics, professional associations, state/central government agencies and institutions, research centers and private practice settings.

PO10: To build confidence in the candidate to be able to work in the society and institution of higher education.

Semester –III

DSCT 3.1: Voice and its Disorders: 133BLP011

Course No.	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
3.1	DSCT 3.1	Theory	04	04	56 hours	2 hours	40	60	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 counselling and therapy to individuals with voice disorders.

Unit 1: Voice Production and Correlates of Voice -12Hrs

- 1.1 Review of anatomy of respiratory, laryngeal, resonatory systems and vocal folds (in detail).
- 1.2 Voice-definition and characteristics.
- 1.3 Physiology of voice – voice production, Theories of phonation, pitch, and loudness change
- 1.4 Correlates of voice – acoustic, psycho-physical, aerodynamic, and physiological correlates
- 1.5 Changes in voice with age (lifespan) and factors influencing voice development.

Unit 2: Assessment of Voice-12Hrs

- 2.1 Assessment of voice: Methods
- 2.2 Qualitative: pitch, loudness, quality assessment, rating scales, protocols (GRBAS, CAPE-V & others).
- 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.
- 2.4 Measurement of nasality (Objective and subjective)
- 2.5 Invasive methods: Such as videokymography, videoendoscopy & videostroboscopy.

Unit3: Voice Disorders and its Classification Systems-14Hrs

- 3.1 Classification systems of voice disorders and their clinical applications.
- 3.2 Voice disorders- Organic, Neurological (vocal fold palsies, Spasmodic dysphonia, Essential voice tremor), Psychogenic, functional, mutational falsetto, puberphonia, Endocrinal- causes, signs, symptoms, vocal symptoms.
- 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.
- 3.4 Aging of Voice: characteristics, signs, symptoms, vocal symptoms
- 3.5 Professional use of voice and its disorders.

Unit 4: Management of Voice Disorders-14Hrs

- 4.1 Voice therapy techniques/ methods: Facilitating Approaches, Establishing/ Modifying the Pitch, loudness, management of hyper functional, hypofunctional voice disorders, hypernasality & hyponasality.
- 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.

References

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1. Stemple, J. C., Glaze, L. E., & Gerdeman, B, K. (2014). Clinical voice pathology: Theory & Management (5th Ed.). San Diego: Plural publishers.
2. Aronson, A.E. & Bless, D. M. (2009). Clinical Voice Disorders. (4th Ed.). New York: Thieme, Inc.
3. Boone, D. R., McFarlane, S. C, Von Berg, S. L. & Zraick, R, I. (2013): The Voice and Voice Therapy. (9th Ed.). Englewood Cliffs, Prentice-Hall, Inc. New Jersey.
4. Andrews, M. L. (2006). Manual of Voice treatment: Pediatrics to geriatrics (3rd Ed.). Thomson Delmar Learning.
5. Colton, R. H, Casper, J. K. & Leonard, R. (2006). Understanding voice problems. Baltimore: Williams & Wilkins.
6. Sapienza, C. M., & Ruddy, B H. (2013). Voice Disorders. (2nd Ed.). San Diego: Plural Publisher.

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7. Culbertson, W. R., Cotton, S. S., & Tanner, D. C. (2006). *Anatomy and Physiology Study Guide for Speech and Hearing*. Plural Publishing, San Diego.
8. Fuller, D. R., Pimentel, J. T., & Peregoy, B. M. (2012). *Applied Anatomy and Physiology for Speech Language Pathology & Audiology*. Lippincott Williams & Wilkins, Baltimore, MD
9. Seikel, J., King, D., & Drumright, D. (2015). *Anatomy & Physiology for Speech, Language, and Hearing*, V Edition. Cengage Learning
10. Zemlin, W. R. (1998). *Speech and Hearing Science: Anatomy and Physiology*. Allyn & Bacon, Needham Heights, Massachusetts

Unit 2

11. Ferrand, C. T. (2014). *Speech Science: An Integrated Approach to Theory and Clinical Practice*, III Edition. Pearson Education, Inc.
12. Raphael, L. J., Borden, G. J., & Harris, K. S. (2011). *Speech Science Primer: Physiology, Acoustics and Perception of Speech*, VI Edition. Lippincott Williams & Wilkins, Baltimore, MD

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15. Greene, M. C. L., & Mathieson, L. (1989). *The Voice and its Disorders*. London: Whurr Publishers
16. Paul, R., & Cascella, P. W. (2007). *Introduction to Clinical Methods in Communication Disorders*, II Edition. Paul H. Brookes Publishing Co. Inc. Baltimore, Maryland

Unit 4

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24. Brown, O.L. (1996). *Discover your voice*. San Diego: Singular Publishing Group
25. Davies, D. G., & Jahn, A. F. (1998). *Care of the Professional Voice: A Management Guide for Singers, Actors and Professional Voice Users*. Butterworth-Heinemann, Oxford.

DSCT 3.2: Diagnostic Audiology: Behavioral Tests: 133BLP012

Course No.	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
3.2	DSCT 3.2	Theory	04	04	56 hours	2 hours	40	60	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-12 Hrs

- 1.1 Introduction to diagnostic audiology: characteristics of a diagnostic test, difference between screening and diagnostic test, functions of a diagnostic test in Audiology.
- 1.2 Need for test battery approach in auditory diagnosis and integration of results of audiological tests, cross-check principle.
- 1.3 Concept of clinical decision analysis (sensitivity, specificity, true positive, true negative, false positive, false negative, and hit rate).
- 1.4 Definition of behavioral and physiological tests and their characteristics in diagnostic audiology.
- 1.5 Theories and physiological bases of recruitment.
- 1.6 Theories and Physiological bases of auditory adaptation.
- 1.7 Clinical Indications for administering audiological tests to identify cochlear pathology
- 1.8 Clinical Indications for administering audiological tests to identify retrocochlear pathology

Unit 2: Cochlear, Retrocochlear Pathology and Pseudohypacusis-14 hrs

- 2.1 Tests to identify cochlear and retrocochlear pathology
 - a. ABLB, MLB
 - b. SISI and its variants
 - c. STAT, TDT and its modification
 - d. Bekesy audiometry
 - e. Brief tone audiometry
 - f. PIPB function
 - g. HINT, Quick SIN
 - h. Glycerol test
 - i. Psychoacoustic tuning curves and TEN test

j. Others

2.2 Tests to diagnose functional hearing loss

- a. Behavioral and clinical indicators of functional hearing loss
- b. Pure tone tests including tone in noise test, Stenger test, BADGE, Puretone DAF
- c. Speech tests including Lombard test, Stenger test, lip-reading test, Low level PB word test, Yes-No test, DAF test.
- d. Identification of functional hearing loss in children: such as Swinging story test, Pulse tone methods

2.3 Psycho-social aspects related to pseudohypacusis

Unit 3: **Central Auditory Processing Disorders- 14Hrs**

3.1 Central auditory processing: definition, different behavioral processes.

3.2 Behavioral and clinical indicators of central auditory processing disorders Bottle neck and subtlety, redundancy principles and their clinical interpretations.

3.3 Screening techniques for CAPD.

3.4 Tests to detect central auditory processing disorders.

- a. Monoaural low redundancy tests - Filtered speech tests, Time compressed speech test, Speech-in-noise test, SSI with ICM,
- b. Dichotic speech tests – Dichotic digit test,
- c. Staggered spondaic word test, Dichotic CV test, SSI with CCM, Competing sentence test,
- d. Binaural interaction tests – RASP, BFT, SWAMI, and MLD
- e. Tests of Temporal processing – Pitch pattern test, Duration pattern tests, Gap detection test, TMTF
- f. Screening test for auditory processing
- g. Overview about CAPD in older adults
- h. Review of CAPD tests with reference to site of lesion (Brainstem, cortical, hemispheric and interhemispheric lesion)

3.5 Diagnostic criteria for CAPD

3.6 Variables influencing the assessment of central auditory processing:

- a. Procedural variables
- b. Subject variables

Unit 4: **Vestibular and Tinnitus Assessment -12Hrs**

4.1 Vestibular assessment

- a. Overview of balance functioning
- b. Overview of nystagmus, giddiness, vertigo
- 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)

4.2 Tests to assess Tinnitus and Hyperacusis

- a. Overview of Tinnitus and Hyperacusis
- b. Pitch matching,

- c. Loudness matching,
- d. Residual inhibition,
- e. Feldmann masking curves
- f. Johnson Hyperacusis Dynamic Range Quotient

4.3 Variables influencing the assessment:

- a. Procedural variable
- 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 3 individuals)
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 malingering 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.

References

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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.

OEC 3.1: Speech Sound Disorders:133BLP0501

Course No.	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
3.3	OEC 3.1	Theory	03	03	42 hours	2 hours	40	60	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-12Hrs

- 1.1 Fundamentals of articulatory phonetics – phonetic description of vowels & consonants.
- 1.2 Phonology & phonological theories – generative phonology, natural phonology.
- 1.3 Phonology & phonological theories – non-linear phonology, optimality theory.
- 1.4 Methods to study speech sound acquisition – diary studies, cross sectional studies and longitudinal studies.
- 1.5 Speech sound acquisition
 - a. Birth to one year (development of infant speech perception, early speech production).
 - b. One to two years (consonant inventories, influence of phonological knowledge on vocabulary acquisition).
 - c. Two to five years (growth of phonetic, phonemic, phonotactic inventory – consonants, clusters, phonological patterns).
 - d. Above five years (speech sound mastery and development of literacy – phonological awareness).
 - e. Factors influencing speech sound acquisition
- 1.6 Acoustics of speech sounds
- 1.7 Speech intelligibility, factors affecting speech intelligibility, assessment of speech intelligibility
- 1.8 Co-articulation: types and effect.
- 1.9 Phonological development in bilingual children-Phonological development in Indian languages.

Unit 2: Assessment of Speech Sound Disorders-14 Hrs

- 2.1 Current concepts in terminology and classification of speech sound disorders
 - a. Organically based speech sound disorders, childhood apraxia of speech.
 - b. Speech sound disorders of unknown origin, classification by symptomatology.
- 2.2 Factors related to speech sound disorders
 - a. Structure and function of speech & hearing and oro-sensory mechanisms.
 - b. Cognitive – linguistic, psychosocial, and social factors.
 - c. Metalinguistic factors related to speech sound disorders.

- 2.3 Introduction to assessment procedures: aims of assessment, screening, and comprehensive assessment.
- 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.
- 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.
- 2.6 Transcription of speech sample - transcription methods –IPA and extension of IPA; broad and narrow transcription.
- 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).
- 2.8 Relational analyses – SODA, pattern analysis, (distinctive features, phonological process analysis).
- 2.9 Speech sound discrimination assessment, phonological contrast testing and stimulability testing.

Unit 3: Management of Speech Sound Disorders-I 12 Hrs

- 3.1 Determining the need for intervention – speech intelligibility and speech severity assessment.
- 3.2 Factors influencing target selection-stimulability, frequency of occurrence, developmental appropriateness, contextual testing, and phonological process analysis.
- 3.3 Basic considerations in therapy – target selection, basic framework for therapy, goal attack strategies, organizing therapy sessions, individual vs. group therapy.
- 3.4 Treatment continuum-establishment, generalization, and maintenance; measuring clinical change.
- 3.5 Facilitation of generalization.
- 3.6 Maintenance and termination from therapy.
- 3.7 Motor-based treatment approaches – Principles of motor learning.
- 3.8 Discrimination/ear training and sound contrast training.
- 3.9 Establishing production of target sound – imitation, phonetic placement, successive approximation, context utilization.
- 3.10 Traditional approach, contextual/sensory-motor approaches.
- 3.11 General guidelines for motor-based treatment approaches.
- 3.12 Use of technology in articulation correction

Unit 4: Management of Speech Sound Disorders -II 14Hrs

- 4.1 Core vocabulary approach.
- 4.2 Introduction to linguistically based treatment approaches- Distinctive feature therapy.
- 4.3 Minimal pair contrasts therapy.
- 4.4 Metaphon therapy, Cycles approach.
- 4.5 Broad-based language approaches.
- 4.6 General guidelines for linguistically based approaches.
- 4.7 Phonological awareness and phonological disorders.

- 4.8 Phonological awareness intervention for preschool children.
- 4.9 Adapting intervention approaches to individuals from culturally and linguistically diverse backgrounds.
- 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 25 words.
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.

Reference

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2. Dodd, B. (2013). *Differential diagnosis and treatment of children with speech disorder*. (2nd Ed). NJ: Wiley.
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15. Deepa Anand (2010). Restandardization of Kannada Articulation test. Dissertation submitted to All India Institute of Speech and Hearing, Mysore
16. Bleile, K.M. (2004). Manual of articulation and phonological disorders. Delmar: Centage Learning Diego: Singular Publishing Group.
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18. Bernthal, J.E. & Bankson, Nicholas W. Flipsen (2009) Articulation and Phonological Disorders: Speech Sound Disorders in Children, 6th ed. Boston, Pearson Education. Chapter5
19. Bleile, K.M. (2004). Manual of articulation and phonological disorders. Delmar: Centage Learning
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21. Pena Brooks, A. & Hegde, M. N. (2000). Assessment and treatment of articulation and phonological disorders in children Austin: Texas, pro.ed– Chapter 6.

Unit 4

22. Bernthal, J.E. & Bankson, Nicholas W. Flipsen (2009). Articulation and Phonological Disorders: Speech Sound Disorders in Children, 6th ed. Boston, Pearson Education. Chapters 6-7
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DSCP 3.1: Clinical (Speech Language Pathology): 133BLP013

Course No.	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
3.4	DSCP 3.1	Practical	02	04	56 hours	2 hours	25	25	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.
4. Speech sound evaluation report – minimum of 5.

DSCP 3.2: Clinical (Audiology):133BLP014

Course No.	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
3.5	DSCP 3.2	Practical	02	04	56 hours	2 hours	25	25	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.

Course 3.6 (AECC-3.1)-033ENG041

English-3

As per university Guidelines

Course 3.7 (AECC-3.2)- 033KAN041

MIL-3

As per university Guidelines

Course 3.8 (SEC-VB. 3.1)

NSS/visual arts

As per university Guidelines

Course 3.9 (SEC-SB. 3.1)

AI

As per university Guidelines

Scheme of Practical Examination (distribution of marks): 25 marks for Semester end examination

1. Practicum – 10 Marks

2. Viva- 15 Marks

Total 25 marks

Note: Same Scheme may be used for IA (Formative Assessment) examination

Details of Formative assessment (IA)for DSCC theory/OEC: 40% weight age for total marks

Type of Assessment	Weight age	Duration	Commencement
Written test-1	15%	1 hr	8 th Week
Written test-2	15%	1 hr	12 th Week
Case study / Assignment / Field work / Project work/ Activity	10%	-----	--
Total	40% of the maximum marks allotted for the paper		

**GENERAL PATTERN OF THEORYQUESTION PAPER FOR DSCC/ OEC
(60 marks for semester end Examination with 2 hrs duration)**

Part-A

1. Question number 1-06 carries 2 marks each. Answer any 05 questions :10marks

Part-B

2. Question number 07- 11 carries 05Marks each. Answer any 04questions : 20 marks

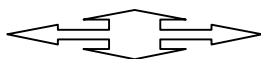
Part-C

3. Question number 12-15 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: 60 Marks

Note: Proportionate weightage shall be given to each unit based on number of hours prescribed.



Semester –IV

DSCT 4.1: Fluency and Its Disorders:134BLP011

Course No.	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
4.1	DSCT 4.1	Theory	04	04	56 hours	2 hours	40	60	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-14Hrs

1.1 Fluency: definition, dimensions, development, factors influencing fluency

- a. Fluency/disfluency/Dysfluency
- b. Stuttering
- c. Definition, epidemiological findings, prevalence and incidence
- d. Stuttering: characteristics

1.2 Nature of Stuttering

- a. Consistency, adjacency, and Lee effect
- b. Situational variability
- c. stuttering and heredity

1.3 Development of stuttering

- a. Bloodstein's phases,
- b. Van Riper's tracks,
- c. Conture's classification,
- d. Guitar's classification

Unit 2: Theories and Assessment of Stuttering-14Hrs

2.1 Introduction to theories of stuttering – organic vs functional

- a. Cerebral dominance
- b. Diagnosogenic theory
- c. Learning theories
- d. Demands – capacities model

2.2 Brief overview of recent theoretical advances

- a. Covert repair hypothesis
- b. EXPLAN theory
- c. Neuroscience model: DIVA model
- d. Communication – Emotional model

2.3 Assessment of stuttering and associated problems

- a. Tools for assessment of stuttering
- b. Assessment of stuttering in children

c. Assessment of stuttering in adults

2.4 Differential diagnosis of developmental stuttering from other fluency disorders

Unit 3: **Management of Stuttering-12 hrs**

3.1 Counselling

3.2 Therapy for children who stutter: Direct/Indirect approaches

- a. Preventive, Prescriptive and Comprehensive treatment program
- b. Use of analogies
- c. Time out and Response cost
- d. Lidcombe program,
- e. Parent – child interaction therapy

3.3 Therapy for adults who stutter stuttering modification and fluency shaping approaches and the rationale

- a. Prolonged speech therapy
- b. Air flow-based therapy techniques
- c. Shadowing
- d. Habit rehearsal techniques
- e. DAF
- f. Masking
- g. Camper-down program
- h. Systematic Desensitization
- i. cognitive- behavior therapy for adults who stutter

3.4 Steps/Sequence of therapy

- a. MIDVAS
- b. Establishment, transfer, and maintenance

3.5 Relapse and recovery from stuttering

3.6 Measurement of therapy progress & naturalness rating

3.7 Group therapy

Unit 4: **Other Fluency Disorders -12Hrs**

4.1 Cluttering: definition, characteristics, assessment and management

4.2 Neurogenic stuttering/SAAND: definition, characteristics, assessment and management

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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DSCT 4.2: Diagnostic Audiology: Physiological Tests:134BLP012

Course No.	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
4.2	DSCT 4.2	Theory	04	04	56 hours	2 hours	40	60	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: **ImmittanceEvaluation-12Hrs**

- 1.1 Introduction: Definition of a physiological test, List of physiological tests in Audiology, overview of their clinical significance
- 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
- 1.3 Instrumentation
- 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
- 1.5 Eustachian tube functioning tests of tympanometry: overview on pressure equalization function of ET, Valsalva, Toynbee, William's pressure swallow, Inflation-deflation test.
- 1.6 Overview on multicomponent and multi-frequency tympanometry
- 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.
- 1.8 Overview on wide band reflectance and wide band tympanometry

Unit 2: **Auditory Brainstem Response -14Hrs**

- 2.1 Introduction and classification of AEPs
- 2.2 Instrumentation
- 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.
- 2.4 Introduction to Auditory brainstem responses (ABR), generators
 - a. Protocol and procedure of recording Auditory brainstem response
 - b. Factors affecting auditory brainstem responses

- c. Analysis of ABR and clinical inferences
- d. Clinical applications of ABR

Unit 3: **Middle and Long Latency Auditory Evoked Potentials-12 Hrs**

- 3.1 Introduction to middle and late latency auditory potentials
 - a. Generators of MLR, ALLR and
 - b. other late auditory potentials (P300 and MMN, P600, N400, T-complex, CNV)
 - c. Protocol for recording MLR, ALLR, P300 and MMN
 - d. Analysis of MLR, LLR, P300 and MMN
 - e. Factors affecting MLR and ALLR
 - f. Interpretation of results and their clinical applications of MLR and cortical auditory evoked potentials

Unit 4: **Otoacoustic Emissions and Tests of Vestibular functioning - 14Hrs**

- 4.1 Introduction to Otoacoustic emissions with a brief note on history
 - a. Origin and classification of OAEs
- 4.2 Instrumentation
 - a. Procedure of OAE measurement: SOAE, TEOAEs, and DPOAEs
 - b. Interpretation of results: SOAE, TEOAEs, and DPOAEs
 - c. Factors affecting OAEs: SOAE, TEOAEs, and DPOAEs
 - d. Clinical applications of OAEs: SOAE, TEOAEs, and DPOAEs
 - e. Contralateral suppression of OAEs and its clinical implications
- 4.3 Overview on structure and function of vestibular system
 - a. Overview on other systems involved in balance including VOR and VSR
 - b. Signs and Symptoms of vestibular disorders
 - c. Team in the assessment and management of vestibular disorders
 - d. Tests for Assessment
 - e. Electronystagmography and its clinical significance: Measurement procedure and interpretation: tests for peripheral and central vestibular function
 - f. Overview on VNG
 - 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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OEC 4.1: Rehabilitative Audiology:134BLP051

Course No.	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
4.3	OEC 4.1	Theory	03	03	42 hours	2 hours	40	60	100

Course outcome

After completion of this course, candidate should 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 - 14 Hrs

- 1.1 Definitions and historical background, Auditory training Vs Auditory learning
- 1.2 Role of audition in speech and language development in normal children and its application in education of individuals with hearing impairment
- 1.3 Factors affecting outcome of auditory learning
- 1.4 Methods of auditory training
- 1.5 Individual Vs Group auditory training
- 1.6 Auditory training activities
 - a. For individuals of different listening abilities /levels
 - b. Verbal vs. nonverbal material
 - c. For individuals Vs group activities
- 1.7 Computer based modules for auditory training

Unit 2: Speech Reading - 14Hrs

- 1.1 Definitions and need of speech reading
- 1.2 Visibility of speech sounds – audiovisual perception vs. visual perception
- 1.3 Visual perception of speech by individuals with hearing impairment
- 1.4 Overview of speech reading tests, including Indian tests
 - a. Analytic Vs Synthetic tests
 - b. Adults Vs Children
- 1.5 Factors influencing speechreading.
- 1.6 Methods of speech reading training: analytical vs synthetic (including speech tracking)
- 1.7 Individual and group speech reading training
- 1.8 Speech reading activities
 - a. For adults and children
 - b. For individual vs. group activities

Unit 3: Management of Tinnitus and Hyperacusis-12Hrs

- 3.1 Audiological management of tinnitus
 - a. Overview on Models related to tinnitus management
 - b. TRT, Masking, others
 - c. Devices used for management

3.2 Audiological management of hyperacusis

Unit 4: Management of Children with Special Needs and Rehabilitation of Older Adults with Hearing Impairment – 12 Hrs

4.1 Management of the deaf-blind child

4.2 Management of other multiple disabilities like hearing loss associated with cognitive problems

4.3 Overview on management of children with central auditory processing problems

4.4 Special strategies used for rehabilitation of older adults with hearing impairment

4.5 Communication strategies

- Anticipatory strategies
- Repair strategies

Practicum

1. Evaluation of baseline auditory skills
2. Preparation of lesson plans for home training.
3. Carrying out auditory learning activities on clients with various degrees of hearing impairment
4. Use of communication strategies on clients
5. Observe the speech and language characteristics of individuals with hearing impairment
6. Knowledge on evaluating baseline auditory skills, lesson plan, concise report
7. Role play of auditory learning, speech reading, communication strategies
8. Observation of management of APD and Multiple disability
9. Observation of management of Tinnitus and Hyperacusis

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DSCP 4.1: Clinical (Speech Language Pathology):134BLP013

Course No.	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
4.4	DSCP 4.1	Practical	02	03	52 hours	2 hours	25	25	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. Speech & language stimulation techniques.
2. Different samples /procedures required to analyze voice production mechanism (acoustic/ aerodynamic methods / visual examination of larynx/ self-evaluation)
3. Different samples /procedures required to analyze speech production mechanism in children with motor speech disorders.

Know-how:

1. To administer at least two more (in addition to earlier semester) standard tests for childhood language disorders.
2. To administer at least two more (in addition to earlier semester) standard tests of articulation/ speech sounds.
3. To set goals for therapy (including AAC) based on assessment/test results for children with language and speech sound disorders.
4. To record a voice sample for acoustic and perceptual analysis.
5. To assess parameters of voice and breathing for speech.
6. Assessment protocol for children with motor speech disorders including reflex profile and swallow skills.
7. Counselling for children with speech-language disorders.

Show:

1. Acoustic analysis of voice – minimum of 2 individuals with voice disorders.
2. Simple aerodynamic analysis - minimum of 2 individuals with voice disorders.
3. Self-evaluation of voice – minimum of 2 individuals with voice disorders.
4. Informal assessment of swallowing – minimum of 2 children.
5. Assessment of reflexes and pre linguistic skills - minimum of 2 children.
6. Pre –therapy assessment and lesson plan for children with language and speech sound disorders - minimum of 2 children each.

Do:

1. Case history - minimum of 2 individuals with voice disorders.
2. Case history - minimum of 2 children with motor speech disorders
3. Oral peripheral examination- minimum of 5 children

4. Apply speech language stimulation/therapy techniques on 5 children with language disorders (with hearing impairment, specific language impairment & mixed receptive language disorder)/speech sound disorders – minimum of 5 sessions of therapy for each child.
5. Exit interview and counselling - minimum of 2 individuals with speech language disorders.

DSCP 4.2: Clinical (Audiology):134BLP014

Course No.	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
4.5	DSCP 4.2	Practical	02	03	52 hours	2 hours	25	25	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. Indications to administer special tests
2. Procedures to assess the listening needs
3. National and international standards regarding electroacoustic characteristics of hearing aids

Know-how:

1. To administer at least 1 test for adaptation, recruitment, and functional hearing loss.
2. Counsel hearing aid user regarding the use and maintenance hearing aids
3. To troubleshoot common problems with the hearing aids
4. To select test battery for detection of central auditory processing disorders.
5. Select different types of ear molds depending on type of hearing aid, client, degree, type and configuration of hearing loss

Show:

1. Electroacoustic measurement as per BIS standard on at least 2 hearing aids
2. How to process 2 hard and 2 soft molds
3. How to preselect hearing aid depending on listening needs and audiological findings on at least 5 clinical situations (case files)
4. How select test battery depending on case history and basic audiological information-3 situations

Do:

1. Tone decay test – 2 individuals with sensorineural hearing loss
2. Strenger test – 2 individuals with unilateral/asymmetrical hearing loss
3. Dichotic CV/digit, Gap detection test – 2 individuals with learning difficulty or problem in hearing in noise
4. Hearing aid fitment for at least 5 individuals with mild to moderate and 3 individuals with mod-severe to profound
5. Hearing aid selection with real ear measurement system on 3 individuals with hearing impairment

Course 4.6 (AECC-4.1)

Indian constitution

As per university Guidelines

Course 4.7 (AECC 4.2):034ENG041

English-4

As per university Guidelines

Course 4.8 (AECC-4.3):034KAN041

MIL-4

As per university Guidelines

Course 4.9 (SEC-VB-4.1)

NSS/visual arts

As per university Guidelines

Scheme of Practical Examination (distribution of marks): 25 marks for Semester end examination

3. Practicum – 10 Marks

4. Viva- 15 Marks

Total 25 marks

Note: Same Scheme may be used for IA (Formative Assessment) examination

Details of Formative assessment (IA)for DSCC theory/OEC: 40% weight age for total marks

Type of Assessment	Weight age	Duration	Commencement
Written test-1	15%	1 hr	8 th Week
Written test-2	15%	1 hr	12 th Week
Case study / Assignment / Field work / Project work/ Activity	10%	-----	--
Total	40% of the maximum marks allotted for the paper		

**GENERAL PATTERN OF THEORYQUESTION PAPER FOR DSCC/ OEC
(60 marks for semester end Examination with 2 hrs duration)**

Part-A

4. Question number 1-06 carries 2 marks each. Answer any 05 questions :10marks

Part-B

5. Question number 07- 11 carries 05Marks each. Answer any 04questions : 20 marks

Part-C

6. Question number 12-15 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: 60 Marks

Note: Proportionate weightage shall be given to each unit based on number of hours prescribed.

