Reg. No. | | | | | | | | | |

AH 101

I Semester M.Sc. (Audiology) Degree Examination, March/April 2023
(Semester Scheme) (2020-22 Batch Onwards)
RESEARCH METHODS, EPIDEMIOLOGY AND STATISTICS

Time : 3 Hours Max. Marks : 70

UNIT – 1

1. a) Highlight the salient features of research methods employed in the field of speech and hearing. **(10×1=10)**
   b) Highlight the importance of ethical issues in research. **(4×1=4)**

OR

2. a) Explain the importance of observation methods used in communication disorders research. **(6×1=6)**
   b) Write short note on :
      i) Ex-post facto research. **(4×1=4)**
      ii) Normative research. **(4×1=4)**

UNIT – 2

3. What is the role of study design in epidemiology ? With the help of any two type of studies, discuss about epidemiology. **(14×1=14)**

OR

4. a) Explain causality of association and describe its criteria in epidemiological research. **(10×1=10)**
   b) Compare and contrast cross-sectional and cohort study. **(4×1=4)**

UNIT – 3

5. a) Test if there is any significant difference in average blood pressure between males and females. (Table value = 2.145) **(10×1=10)**

Males	120	122	124	122	136	121	124	126
Females	132	139	138	140	145	129	132	131

   b) Write a short note on kappa statistics. **(4×1=4)**

OR

P.T.O.

6. Write short notes on the following.
   a) One tailed test and Two tailed test. **(5×1=5)**
   b) Type I and Type II error. **(5×1=5)**
   c) P-value. **(4×1=4)**

UNIT – 4

7. a) Write a short note on principal component analysis and factor analysis. **(6×1=6)**
   b) Three different techniques; medication, exercises and special diet are randomly assigned to individuals diagnosed with high blood pressure and after four weeks the blood pressure is recorded. Test the significant difference of mean blood pressure among the three techniques. (Table value = 3.89) **(8×1=8)**

Medication	120	121	128	119	123
Exercise	128	126	127	125	129
Diet	134	135	136	138	142

OR

8. a) Explain the need for multivariate analysis in the field of communication disorders. **(8×1=8)**
   b) Critically evaluate the research designs used in the field of communication disorders with suitable examples. **(6×1=6)**

UNIT – 5

9. a) What is evidence-based practice ? Explain in detail about internal and external evidences. **(10×1=10)**
   b) Discuss briefly on methods to find best evidences. **(4×1=4)**

OR

10. Explain the importance of systematic review and meta-analysis in conducting a good research in your field. **(14×1=14)**

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AH 102

I Semester M.Sc. (Audiology) Degree Examination, March/April 2023
(Semester Scheme) (2020-22 Batch Onwards)
COCHLEAR PHYSIOLOGY

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Describe the anatomy of Organ of Corti with a neat diagram. **14**

OR

2. Write short notes on : **(7×2=14)**
   a) The blood supply to cochlea
   b) Innervations of cochlea.

UNIT – II

3. Describe the outer hair cell physiology. **(14×1=14)**

OR

4. Answer the following : **(7×2=14)**
   a) Describe the technique to study basilar membrane physiology.
   b) Write a note on cochlear non-linearity.

UNIT – III

5. Describe the phylogenetic development of cochlea. **14**

OR

6. Write short notes on : **(7×2=14)**
   a) Write a note on non-mammalian cochlea.
   b) Write a note on macro and micro nutrients related to sensory cell physiology.

P.T.O.

UNIT – IV

7. Explain the instrumentation and techniques for recording different types of OAEs. **14**

OR

8. Explain the following : **(7×2=14)**
   a) The factors affecting the evoked OAEs.
   b) The clinical applications of OAEs.

UNIT – V

9. Describe the protocol for recording ECochG and its challenges. **14**

OR

10. Write short notes on : **(7×2=14)**
    a) Endocochlear potentials
    b) Clinical applications of ECochG.

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AH 103

I Semester M.Sc. (Audiology) Degree Examination, March/April 2023
(Semester Scheme) (2020 – 22 Batch Onwards)
HEARING SCIENCES

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Explain different adaptive psychophysical methods and list the advantages and disadvantages of each method. **14**

OR

2. Write short notes on : **(7×2=14)**
   a) Sinusoidal signal and its parameters.
   b) Filters and different types of filters.

UNIT – II

3. Explain the methods to obtain MAP and MAF curves, their characteristics and list the reasons for missing 6 dB. **14**

OR

4. Describe the factors affecting loudness perception. **14**

UNIT – III

5. Explain different pitch scales and describe the advantages and disadvantages of each. **14**

OR

6. Describe the factors affecting perception of complex signals in individuals with hearing loss. **14**

P.T.O.

UNIT – IV

7. Describe masking patterns and excitation patterns in normal hearing individuals and hearing impaired individuals. **14**

OR

8. Describe the following : **(6+4+4)**
   a) Central masking
   b) Informational masking
   c) Overshoot phenomena.

Compare & contrast the shape of auditory filters in normal hearing individuals and hearing impaired individuals.

UNIT – V

9. Explain the following : **(7×2=14)**
   a) The factors affecting central masking.
   b) The factors affecting Speech masking and Speech babble.

OR

10. Write short notes on : **(6+4+4)**
    a) Features of informational masking.
    b) Influence of co-modulation on masking.
    c) Hearing loss and masking.

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AS 104

I Semester M.Sc. (Audiology) Degree Examination, March/April 2023
(Semester Scheme) (2020-22 Batch Onwards)
AUDITORY DISORDERS

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Write short notes on : **(7×2=14)**
   a) Kerotosis obturans/otitis externa
   b) Reflexometry and tympanometry.

   OR

2. Write short notes on : **(7×2=14)**
   a) Acquired atresia and its audiological findings.
   b) Otosclerosis and its audiological findings.

UNIT – II

3. a) Describe ototoxicity, sudden sensori-neural hearing loss and senile deafness and enumerate on audiological findings. **7**
   b) Explain the pathophysiology of hearing loss due to systemic diseases. **7**

   OR

4. Briefly describe the following : **(8+6=14)**
   a) Pathophysiology of ototoxicity
   b) Pathophysiology of sudden sensori-neural hearing loss.

UNIT – III

5. A) Write short notes on : **(4×2=8)**
      a) Clinical findings of Noise Induced Hearing Loss.
      b) Clinical findings of Traumatic Injuries.
   B) Briefly describe the guidelines for hearing conservation programme. **(6×1=6)**

   OR

6. Describe the different types of hearing protection devices. List their merits and demerits. **14**

P.T.O.

UNIT – IV

7. A) Write short notes on : **(4×2=8)**
   a) Audiological findings in person with space occupying lesions.
   b) Audiological findings in person with brainstem lesion.

   B) a) Write short notes on pathophysiology of brainstem lesion. **(3×2=6)**
   b) Discuss importance of radiological investigation in the field of audiology.

OR

8. Write short notes on : **(7×2=14)**
   a) Radiological findings and its correlation with audiological findings in ~~Central Auditory Processing Disorders.~~ space occupying lesions
   b) Management options for space occupying lesions.

UNIT – V

9. Write short notes on : **(4+4+3+3=14)**
   a) Pathophysiology of Auditory Neuropathy Spectrum Disorder.
   b) Audiological finding in Auditory Neuropathy Spectrum Disorder.
   c) Speech perception ability in Auditory Neuropathy Spectrum Disorder.
   d) Rehabilitation strategies for persons with Auditory Neuropathy Spectrum Disorder.

OR

10. Write short notes on : **(7×2=14)**
    a) Any 4 clinical correlations across Auditory Neuropathy Spectrum Disorder and space occupying lesion.
    b) Explain the aetiology of Auditory Neuropathy Spectrum Disorder.

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AS 106

I Semester M.Sc. (Audiology) Degree Examination, March/April 2023
(Semester Scheme) (2020 – 22 Batch Onwards)
TECHNOLOGY IN AUDIOLOGY

Time : 3 Hours Max. Marks : 70

UNIT – I

1. With a neat diagram, explain the structure and function of microphone. **14**

OR

2. Explain the working principle of EEG system. **14**

UNIT – II

3. Write an essay on speech recognition systems. **14**

OR

4. Discuss the applications of artificial neural networks in hearing sciences. Describe methods for estimation of fundamental frequency. **14**

UNIT – III

5. Explain the working principle of CT. Discuss its application in hearing science. **14**

OR

6. Write an essay on intraoperative monitoring of auditory system. **14**

UNIT – IV

7. Describe the technology and resources required for tele-audiology. **14**

OR

8. Discuss the applications of tele-technology in Audiology. **14**

UNIT – V

9. Discuss the applications of MATLAB in audiology. **14**

OR

10. Write an essay on calibration and maintenance of audiometers. **14**

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SLPH 101

I Semester M.Sc. Speech Language Pathology Degree Examination, March/April 2023
(Semester Scheme) (2020 – 22 Batch Onwards)
RESEARCH METHODS, EPIDEMIOLOGY AND STATISTICS

Time : 3 Hours | Max. Marks : 70

UNIT – 1

1. a) Documentation and report writing determine how good a research work is. Justify your views on this statement. **(10×1=10)**

   b) Write the difference between survey and evaluation research. **(4×1=4)**

   OR

2. Describe in detail on different designs used in research. **(14×1=14)**

UNIT – 2

3. a) Discuss the methods adopted to derive epidemiological data in communication disorders. **(10×1=10)**

   b) Compare and contrast between clinical trial and case control study. **(4×1=4)**

   OR

4. Prepare a research proposal for screening speech and hearing disorder. Write with reference to Any one disorder. **(14×1=14)**

UNIT – 3

5. a) Enumerate the assumptions of chi-square test. **(8×1=8)**

   b) Test the significance association between gender and smoking (Table value = 3.84). **(6×1=6)**

		Smoking	
		Yes	No
Gender	**Female**	5	30
	Male	20	10

OR

P.T.O.

6. Write short notes on : **(7×2=14)**
   a) Kappa Co-efficient.
   b) Chi-square test for independence of attributes.

UNIT – 4

7. Describe on analysis of Variance and Covariance with suitable examples from the field of Speech and Hearing. **(14×1=14)**

OR

8. a) Explain the need for multivariate analysis in the field of communication disorders. **(8×1=8)**
   b) Critically evaluate the research designs used in the field of communication disorders with suitable examples. **(6×1=6)**

UNIT – 5

9. a) What are the highest levels of evidence to study research outcome ? **(10×1=10)**
   b) Write a note on absolute risk reduction and absolute benefit reduction. **(4×1=4)**

OR

10. Enumerate on challenges in implementation of Evidence Based Practice in an Indian Scenario in the field of Speech and Hearing. **(14×1=14)**

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SLPH 102

I Semester M.Sc. Speech Language Pathology Degree Examination, March/April 2023
(Semester Scheme) (2020-22 Batch Onwards)
NEUROBIOLOGY OF SPEECH – LANGUAGE AND COGNITION

Time : 3 Hours Max. Marks : 70

UNIT – 1

1. Explain the cortical and subcortical structures responsible for speech and language production. **(14×1=14)**

OR

2. With a neat diagram explain neuron. Write a note on different types of neurotransmission with literature evidence. **(4+10=14)**

UNIT – 2

3. Compare and contrast various neurophysiological and neuroimaging techniques used for the assessment of speech and language disorders. **(14×1=14)**

OR

4. Discuss the importance of neurobiological procedures in the assessment of speech and language disorders. **(14×1=14)**

UNIT – 3

5. With the help of any two models explain attention. **(14×1=14)**

OR

6. What is the role of memory in the development of speech and Language ? Explain the phenomenon using cognitive linguistic processes. **(14×1=14)**

UNIT – 4

7. Describe in detail the neural network for writing and spelling. **(14×1=14)**

OR

8. Write an elaborate note on neural basis for cognitive processes. Describe its relation to language processes. **(7+7=14)**

UNIT – 5

9. How can neurophysiological and functional changes in brain contribute to speech and language in an elderly individual ? **(14×1=14)**

OR

10. Describe the effects of aging in speech and language production in any two pathological conditions. **(14×1=14)**

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SLPH 103

I Semester M.Sc. Speech Language Pathology Degree Examination, March/April 2023
(Semester Scheme) (2020-22 Batch Onwards)
SPEECH SCIENCE AND SPEECH PRODUCTION

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Explain the various instruments and measures used for respiratory analysis and its relevance to speech production. **(14×1=14)**

OR

2. Discuss the physiological aspects of laryngeal system. **(14×1=14)**

UNIT – II

3. Describe source filter theory highlighting on various characteristics of the source and filter. **(14×1=14)**

OR

4. Critically evaluate perturbation theory of speech production. **(14×1=14)**

UNIT – III

5. A) Describe Digital Signal Processing **(6×1=6)**

   B) Short notes on : **(4×2=8)**

   i) Parameters of voice

   ii) Fourier analysis.

OR

6. Describe various software used for acquisition and acoustic analysis. **(14×1=14)**

P.T.O.

UNIT – IV

7. Describe acoustic and aerodynamic aspects of vowels. **(14×1=14)**

OR

8. Elaborate on effects of context and speaker on acoustic characteristics of speech sounds. **(14×1=14)**

UNIT – V

9. Explain any two methods used in speech synthesis. **(14×1=14)**

OR

10. Elaborate on various applications of acoustic analysis of speech. **(14×1=14)**

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SLPS 104

I Semester M.Sc. Speech Language Pathology Degree Examination, March/April 2023
(Semester Scheme) (2020-22 Batch Onwards)
CLINICAL LINGUISTICS AND MULTILINGUAL ISSUES

Time : 3 Hours | Max. Marks : 70

UNIT – 1

1. Define Clinical Linguistics. Explain the scope of linguistics in the clinical field. **(14×1=14)**

OR

2. a) Describe the process of grammatical development in children. **(8×1=8)**
   b) Describe the disorders associated with grammatical development. **(6×1=6)**

UNIT – 2

3. Explain the following with suitable examples :
   a) Truth relations **(7×1=7)**
   b) Discourse. **(7×1=7)**

OR

4. Discuss the following terms by giving suitable examples :
   a) Language deficiency **(7×1=7)**
   b) Language maintenance. **(7×1=7)**

UNIT – 3

5. Describe the various issues involved in the development of language in children. **(14×1=14)**

OR

6. Explain the models of second language acquisition. **(14×1=14)**

P.T.O.

UNIT – 4

7. How is lateralization and hemispheric asymmetry significant to the processing of normal and disordered language ? **(14×1=14)**

OR

8. Explain the neuroanatomical basis of language learning and dysfunction. **(14×1=14)**

UNIT – 5

9. Describe Sapir-Whorf hypothesis and its principles. **(14×1=14)**

OR

10. Explain the multicultural and multilingual issues in rehabilitation with special reference to India. **(14×1=14)**

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SLPS 106

I Semester M.Sc. Speech Language Pathology Degree Examination, March/April 2023
(Semester Scheme) (2020 – 22 Batch Onwards)
LANGUAGE AND LITERACY DISORDERS

Time : 3 Hours Max. Marks : 70

UNIT – 1

1. Discuss the role of language in the acquisition of literacy with suitable illustrations. **(14×1=14)**

OR

2. a) Explain the stages of reading and writing development. **(7×1=7)**

   b) Discuss the development of reading across different writing systems. **(7×1=7)**

UNIT – 2

1. Discuss about the factors that affect the development of reading. Justify your answer with suitable illustrations. **(14×1=14)**

OR

2. a) Explain the relationship between genetics and literacy disorders. **(7×1=7)**

   b) Compare and Contrast learning disability versus Specific language impairment. **(7×1=7)**

UNIT – 3

1. Discuss about the available tools to diagnose children with language disorders. Also, discuss the modifications required in the available tools in your opinion. **(14×1=14)**

OR

P.T.O.

2. Discuss about the available test batteries which specifically assess individuals with learning disability with their possible merits and demerits. **(14×1=14)**

UNIT – 4

1. a) Explain the intervention approaches to promote the development of reading comprehension with suitable illustrations. **(7×1=7)**

   b) Explain the intervention approaches to promote decoding and early reading skills. **(7×1=7)**

OR

2. Prepare a Lesson Plan to promote spelling and written language output. **(14×1=14)**

UNIT – 5

1. a) Discuss the importance of dyslexia association groups in India. **(7×1=7)**

   b) Discuss about the available acts, regulations, and policies relevant to education and children with special needs. **(7×1=7)**

OR

2. Explain the importance of a team approach in remediating literacy disorder with suitable illustrations. **(14×1=14)**
