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

AH 101

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025
(Semester Scheme) (2020-22 Batch Onwards)
RESEARCH METHODS, STATISTICS AND EPIDEMIOLOGY

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Write a note on single subject designs and group designs in research. **(14×1=14)**

OR

2. What are the principles of ethics in research as per the ICMR guidelines. **(14×1=14)**

UNIT – II

3. Write a short note on :
   a) Cross-sectional study. **(7×1=7)**
   b) Cohort study. **(7×1=7)**

OR

4. Describe the application of epidemiology in screening procedures employed in Audiology. **(14×1=14)**

UNIT – III

5. a) Write the difference between parametric and non-parametric tests. **(7×1=7)**
   b) Test the significant association between gender and smoking (Table value = 3.84). **(7×1=7)**

		Smoking	
		Yes	No
Gender	Female	5	30
	Male	20	10

OR

P.T.O.

6. a) Write a short note on Kappa statistics. **(6×1=6)**

   b) Write a short note on types of hypotheses, types of errors, one sided and two sided test, level of significance and power of the test. **(8×1=8)**

UNIT – IV

7. a) Write short note on ANOVA and ANCOVA. **(8×1=8)**

   b) Find rank correlation coefficient and interpret the result. **(6×1=6)**

Marks in Research	8	10	12	7	14
Marks in Statistics	6	9	14	8	13

OR

8. a) Calculate Pearson correlation coefficient and interpret the result. **(8×1=8)**

Marks in Subject A	8	5	6	9	10	5	7	6	8	9
Marks in Subject B	5	4	3	7	6	3	6	6	7	6

   b) Write a short note on multivariate analysis. **(6×1=6)**

UNIT – V

9. Write a note on :

   a) Positive and negative predictive value. **(7×1=7)**

   b) Diagnostic odds ratio. **(7×1=7)**

OR

10. Explain the steps involved in Systematic review and meta-analysis. **(14×1=14)**

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

AH 101

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025
(Semester Scheme) (2020-22 Batch Onwards)
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Time : 3 Hours Max. Marks : 70

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UNIT – III

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   b) Test the significant association between gender and smoking (Table value = 3.84). **(7×1=7)**

		Smoking	
		Yes	No
Gender	Female	5	30
	Male	20	10

OR

P.T.O.

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   b) Write a short note on types of hypotheses, types of errors, one sided and two sided test, level of significance and power of the test. **(8×1=8)**

UNIT – IV

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Marks in Research	8	10	12	7	14
Marks in Statistics	6	9	14	8	13

OR

8. a) Calculate Pearson correlation coefficient and interpret the result. **(8×1=8)**

Marks in Subject A	8	5	6	9	10	5	7	6	8	9
Marks in Subject B	5	4	3	7	6	3	6	6	7	6

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UNIT – V

9. Write a note on :

   a) Positive and negative predictive value. **(7×1=7)**

   b) Diagnostic odds ratio. **(7×1=7)**

OR

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

AH 102

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025
(Semester Scheme) (2020-22 Batch Onwards)
COCHLEAR PHYSIOLOGY

Time : 3 Hours | Max. Marks : 70

UNIT – I

1. a) Explain the microanatomy of cochlea. **(8×1=8)**
   b) Write a note on the innervations of cochlea. **(6×1=6)**

   OR

2. a) Elaborate on the advances in cochlear regeneration. **(6×1=6)**
   b) Explain the homeostatic mechanism in cochlea. **(8×1=8)**

UNIT – II

3. Describe the techniques to study hair cell physiology. **(14×1=14)**

   OR

4. a) Explain the mechanism of cochlear non-linearity. **(6×1=6)**
   b) Write a note on inner hair cell physiology. **(8×1=8)**

UNIT – III

5. a) Describe the phylogenetic development of cochlea. **(8×1=8)**
   b) Short note on non-mammalian cochlea. **(6×1=6)**

   OR

6. Explain the role of efferent control in the hearing mechanism. **(14×1=14)**

P.T.O.

UNIT – IV

7. Explain the instrumentation and techniques for recording different types of OAEs. **(14×1=14)**

OR

8. a) Write a short note on the factors affecting the evoked OAEs. **(7×1=7)**

   b) Describe the fine structure DPOAEs. **(7×1=7)**

UNIT – V

9. a) Explain the different techniques of recording electrocochleography. **(8×1=8)**

   b) Highlight on the clinical applications of electrocochleography. **(6×1=6)**

OR

10. Explain the protocol for recording and interpretation of electrocochleography. **(14×1=14)**

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

AH 102

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025 (Semester Scheme) (2020-22 Batch Onwards)

COCHLEAR PHYSIOLOGY

Time : 3 Hours | Max. Marks : 70

UNIT – I

1. a) Explain the microanatomy of cochlea. **(8×1=8)**
   b) Write a note on the innervations of cochlea. **(6×1=6)**

   OR

2. a) Elaborate on the advances in cochlear regeneration. **(6×1=6)**
   b) Explain the homeostatic mechanism in cochlea. **(8×1=8)**

UNIT – II

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   OR

4. a) Explain the mechanism of cochlear non-linearity. **(6×1=6)**
   b) Write a note on inner hair cell physiology. **(8×1=8)**

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P.T.O.

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OR

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

AH 103

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025
(Semester Scheme) (2020 – 22 Batch Onwards)
HEARING SCIENCES

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Elaborate on :

   a) The basic concepts in the theory of signal detection. **(8×1=8)**

   b) Applications of signal detection theory. **(6×1=6)**

OR

2. Explain the various psychophysical methods used for threshold estimation. **(14×1=14)**

UNIT – II

3. Discuss in detail the factors affecting loudness perception. **(14×1=14)**

OR

4. Describe the different models of loudness perception. **(14×1=14)**

UNIT – III

5. a) Elaborate on the theories of pitch perception. **(8×1=8)**

   b) Compare the strengths and limitations of the theories of pitch perception. **(6×1=6)**

OR

6. Explain the differences in pitch perception of complex signals in normal hearing and individuals with hearing loss. **(14×1=14)**

P.T.O.

UNIT – IV

7. Elaborate on the different methods of estimating the shape of the auditory filter. **(14×1=14)**

OR

8. Compare and contrast the shape of the auditory filter between individuals with normal hearing and those with hearing loss. **(14×1=14)**

UNIT – V

9. Write a note on :
   a) Co-modulation masking release. **(8×1=8)**
   b) Central masking. **(6×1=6)**

OR

10. a) Explain the effect of hearing loss on non-peripheral masking. **(8×1=8)**
    b) Write a note on informational masking. **(6×1=6)**

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

AH 103

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025
(Semester Scheme) (2020 – 22 Batch Onwards)
HEARING SCIENCES

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Elaborate on :

   a) The basic concepts in the theory of signal detection. **(8×1=8)**

   b) Applications of signal detection theory. **(6×1=6)**

OR

2. Explain the various psychophysical methods used for threshold estimation. **(14×1=14)**

UNIT – II

3. Discuss in detail the factors affecting loudness perception. **(14×1=14)**

OR

4. Describe the different models of loudness perception. **(14×1=14)**

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   b) Compare the strengths and limitations of the theories of pitch perception. **(6×1=6)**

OR

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   b) Central masking. **(6×1=6)**

OR

10. a) Explain the effect of hearing loss on non-peripheral masking. **(8×1=8)**
    b) Write a note on informational masking. **(6×1=6)**

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

AS 104

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025 (Semester Scheme) (2020-22 Batch Onwards) AUDITORY DISORDERS

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Describe the congenital anomalies of the external and middle ear. **(14×1=14)**

OR

2. a) Discuss the clinical significance of multifrequency and multicomponent tympanometry. **(8×1=8)**

   b) Discuss the surgical procedures for reconstruction of the external and middle ear. **(6×1=6)**

UNIT – II

3. Explain the audiological findings and pathophysiology of Meniere's disease and sudden SNHL. **(14×1=14)**

OR

4. Explain the audiological findings and pathophysiology of hearing loss due to autoimmune conditions and systemic diseases. **(14×1=14)**

UNIT – III

5. Explain the audiological findings and hearing conservation for NIHL. **(14×1=14)**

OR

6. Explain the non-audiological effects and non-audiological management of NIHL. **(14×1=14)**

P.T.O.

UNIT – IV

7. Explain the audiological findings in space-occupying lesions at the level of auditory nerve and brainstem. **(14×1=14)**

OR

8. a) Explain the importance of radiological examination and its correlation with audiological findings in space-occupying lesions. **(8×1=8)**

   b) Explain the challenges in the diagnosis of space-occupying lesions. **(6×1=6)**

UNIT – V

9. Comment on the audiological findings and their correlation with the pathophysiology in ANSD. **(14×1=14)**

OR

10. Discuss the importance of speech perception assessment and its relation with the management of individuals with ANSD. **(14×1=14)**

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

AS 104

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025 (Semester Scheme) (2020-22 Batch Onwards) AUDITORY DISORDERS

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Describe the congenital anomalies of the external and middle ear. **(14×1=14)**

OR

2. a) Discuss the clinical significance of multifrequency and multicomponent tympanometry. **(8×1=8)**

   b) Discuss the surgical procedures for reconstruction of the external and middle ear. **(6×1=6)**

UNIT – II

3. Explain the audiological findings and pathophysiology of Meniere's disease and sudden SNHL. **(14×1=14)**

OR

4. Explain the audiological findings and pathophysiology of hearing loss due to autoimmune conditions and systemic diseases. **(14×1=14)**

UNIT – III

5. Explain the audiological findings and hearing conservation for NIHL. **(14×1=14)**

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6. Explain the non-audiological effects and non-audiological management of NIHL. **(14×1=14)**

P.T.O.

UNIT – IV

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8. a) Explain the importance of radiological examination and its correlation with audiological findings in space-occupying lesions. **(8×1=8)**

   b) Explain the challenges in the diagnosis of space-occupying lesions. **(6×1=6)**

UNIT – V

9. Comment on the audiological findings and their correlation with the pathophysiology in ANSD. **(14×1=14)**

OR

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

AS 106

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025
(Semester Scheme) (2020-22 Batch Onwards)
TECHNOLOGY IN AUDIOLOGY

Time : 3 Hours Max. Marks : 70

UNIT – I

1. Discuss the fundamentals of FM transmission and satellite communication. Elucidate their use in audiological research. **(14×1=14)**

OR

2. a) Describe the working principles of evoked auditory potentials. **(8×1=8)**

   b) Explain the principles of high-fidelity sound systems for auditorium acoustics. **(6×1=6)**

UNIT – II

3. a) Explain Fourier Transformation and its applications in speech analysis. **(8×1=8)**

   b) Write short notes on LPC-based synthesis for speech analysis. **(6×1=6)**

OR

4. Describe voice response systems and speaker recognition systems with block diagrams. **(14×1=14)**

UNIT – III

5. a) Write a note on intraoperative monitoring of the auditory system. **(7×1=7)**

   b) Write short notes on Near Infrared Spectroscopy. **(7×1=7)**

OR

6. a) Explain the principle behind SPECT. **(7×1=7)**

   b) Write a note on Speech perception in fMRI. **(7×1=7)**

P.T.O.

UNIT – IV

7. a) Explain the significance of remote consultations and databases in clinical audiology. **(8×1=8)**

   b) Discuss the role of video conferencing in remote diagnostics. **(6×1=6)**

OR

8. a) Discuss the roles and challenges of databases in tele-audiology. **(7×1=7)**

   b) Write a note on technology requirement for tele-audiology. **(7×1=7)**

UNIT – V

9. a) Discuss the role of MATLAB in research and diagnostics in hearing science. **(8×1=8)**

   b) Outline the calibration procedures for Tympanometer. **(6×1=6)**

OR

10. a) Describe the process of noise restoration using Adobe Audition. **(8×1=8)**

    b) Explain the basics of vectors and matrices in PRAAT. **(6×1=6)**

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

AS 106

I Semester M.Sc. (Audiology) Degree Examination, February/March 2025
(Semester Scheme) (2020-22 Batch Onwards)
TECHNOLOGY IN AUDIOLOGY

Time : 3 Hours Max. Marks : 70

UNIT – I

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