



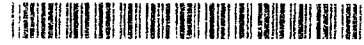
**II Semester M.Sc. (Audiology) Examination, June/July 2009
(Scheme : ISS)
Neurophysiology of Hearing**

Time : 3 Hours

Max. Marks : 80

Instruction : Answer all questions.

- I. 1) a) Briefly describe the generation, properties and recording of action potentials. **10**
b) Write a note on non-linearity of the auditory nerve. **6**
OR
- 2) How are frequency and timing information are coded in the auditory nerve ? **16**
- II. 3) a) Describe the coding of speech stimulus in the auditory brain stem. **10**
b) Discuss the importance of brain stem for localization of sound. **6**
OR
- 4) a) Describe the tonotopic organization in the auditory brain stem. **10**
b) Describe the different types of responses seen in the cochlear nucleus cells. **6**
- III. 5) "Auditory cortex is a highly plastic neural structure". Comment on the statement with evidence from recent research findings. **16**
OR
- 6) Briefly describe the coding of intensity, duration and location of source in the auditory cortex. **16**
- IV. 7) Discuss the role of efferent auditory pathways in audition. **16**
OR
- 8) a) Write a note on protective function of efferent auditory pathway. **10**
b) Briefly describe the anatomy of medial olivocohlear bundle. **6**
- V. 9) a) What are the differences between the neurotransmitters and neuromodulators ? **10**
b) Write a note on neurotransmitter of efferent auditory pathway. **6**
OR
- 10) What are neurotransmitters ? Discuss their function in auditory system. **16**



II Semester M.Sc. (Audiology) Examination, June/July 2009
(Semester Scheme)

Psychophysics of Audition in Normals

Time : 3 Hours

Max. Marks : 80

Instruction : Answer all questions.

- I. 1) Define critical band. How critical band concept is used in understanding human auditory physiology ? 16
OR
- 2) Define masking. What are the different types of masking described in the literature ? Critically evaluate any one method. 16
- II. 3) Write an essay on neurophysiological process in adaptation in human auditory system. 16
OR
- 4) Define adaptation. Discuss various methods used in studying adaptation. 16
- III. 5) a) Discuss importance of time intensity trading. 8
b) Discuss the role of binaural interference in localization of complex tones. 8
OR
- 6) a) Differentiate onset Vs ongoing disparities. 8
b) Define localization and factors that affect localization. 8
- IV. 7) a) Define Beats. Discuss how beats are formed. 8
b) Discuss the different models of binaural hearing. 8
OR
- 8) a) Differentiate localization Vs lateralization. 8
b) How masking level difference plays role in lateralization ? 8
- V. 9) Write an essay on musical scales and their role in understanding music perception in humans. 16
OR
- 10) a) Does music perception differ from speech perception in humans ? If so, justify. 8
b) What are the factors that affect perception of music in normals ? 8

MSCAD/AB 040



II Semester M.Sc. (Audiology) Examination, June/July 2009

(Scheme : ISS)

Audiology

Physiological Assessment of the Auditory System

Time : 3 Hours

Max. Marks : 80

Instruction : Answer all questions.

I. 1) a) Discuss the need for carrying out multicomponent tympanometry when a high frequency probe tone is used. 8

b) Discuss the factors that affect results of multicomponent tympanometry. 8

OR

2) a) Differentiate between sweep pressure and sweep frequency approaches used for estimating resonant frequency of the middle ear. 8

b) Discuss the clinical applications of multifrequency tympanometry with evidence from literature. 8

II. 3) Write a note on latency of acoustic reflex and temporal summation of acoustic reflex. 16

OR

4) a) Explain non-acoustic reflex path with the help of a diagram. 8

b) Write a note on stimuli used for eliciting non-acoustic reflex. 8

III. 5) Discuss the factors that affect ART 16

OR

6) a) Discuss the effect of middle ear pathology on acoustic and non-acoustic reflexes. 8

b) Discuss the need for immittance evaluation in differential diagnosis of auditory disorders in the present context. 8

P.T.O.

MSCAD/AB 040



IV. 7) Discuss the origin of DPOAE and stimuli used for recording DPOAE. 16

OR

8) Describe the methods/techniques used in the instrument to improve signal-to-noise while recording OAEs. 16

V. 9) Compare and contrast ipsilateral and contralateral suppression of OAEs. 16

OR

10) Discuss the factors that affect the recording of TEOAEs. 16

MSC AD/AB 060



II Semester M.Sc. Examination, June/July 2009

(Scheme : ISS)

Audiology

Implantable Device for the Hearing Impaired

Time: 3 Hours

Max. Marks: 80

Instruction : Answer all questions.

- I. 1) a) Describe different methods to assess the outcome for middle ear implants and BAHA. **10**
b) How do you select a candidate for middle ear implant ? **6**
OR
- 2) Compare and contrast the different middle ear implants available. **16**
- II. 3) Write an essay on the different components and their functions in a cochlear implant. **16**
OR
- 4) a) Compare and contrast different modes of stimulator used in cochlear implants. **6**
b) What are the accessories used with cochlear implants ? **6**
c) What is meant by EAS ? Who are the candidates for the same ? **4**
- 5) Describe the various speech coding strategies used in cochlear implant and discuss their advantages and disadvantages. **16**
OR
- 6) Discuss the role of an audiologist in the post-operative management and rehabilitation of clients with cochlear implant. **16**

MSC AD/AB 060



IV. 7) How would you instruct a mother of a one year old child about :

- a) What is Auditory-Verbal Therapy (AVT)? 4
- b) What is relevance in the management of children with cochlear implant? 6
- c) Discuss the role of caregivers in successful implementation of AVT. 6

OR

8) Discuss strategies you would use in habilitating of a 40 year old who get implanted after the onset of sudden hearing loss. 16

V. 9) Write an essay on auditory brainstem implant. 16

OR

10) Discuss the future needs in implantable devices. 16