

AB 010

II Semester M.Sc. (Audiology) Examination, May/June 2007
(Semester Scheme)
Neurophysiology of Hearing

Time : 3 Hours

Max. Marks : 80

Instruction : Answer all questions.

- I. 1) a) How does speech coding take place at the auditory nerve ? 8
b) Two tone inhibition is due to two tone suppression. Discuss. 8
- OR
- 2) Highlight the different characteristics of auditory nerve and their importance in understanding evoked potentials. 16
- II. 3) Trace the classical auditory pathway and mention how different structures in this pathway contribute to hearing. 16
- OR
- 4) The inferior colliculi play a major role in sound localization. Discuss. 16
- III. 5) Compare the frequency coding at the cortical and sub-cortical level. 16
- OR
- 6) Write about the areas associated with the auditory cortex and their importance in hearing. 16
- IV. 7) Write about the courses of Medial Olivary Complex efferent bundles and their influence on cochlear physiology. 16
- OR
- 8) Trace the course of V cranial nerve and its importance in auditory physiology. 16
- V. 9) a) Discuss the different types of synapse. 8
b) Discuss factors which can affect the neural physiology. 8
- OR
- 10) Write an essay on neurotransmitters GABA and ACh specifically in relation to hearing. 16

**II Semester M.Sc. (Audiology) Examination, May/June 2007
(Semester Scheme)
Psychophysics of Audition in Normals**

Time : 3 Hours

Max. Marks : 80

Instruction : Answer all questions.

- I. 1) a) Describe non-simultaneous masking. 12
b) What factors affect frequency resolution ? 4

OR

- 2) a) What is pulsation threshold ? What is its implication ? 10
b) Briefly explain Two-tone suppression. 6

- II. 3) a) Describe briefly the methods of studying adaptation. 8
b) Write briefly on neurophysiological processes underlying adaptation. 8

OR

- 4) a) Compare and contrast adaptation and fatigue. 12
b) What factors affect space perception ? 4

- HI. 5) "Binaural processing of signals involves neural integration of inputs from the two ears" Comment. 16

OR

- 6) a) What is localization ? 2
b) What factors affect it ? 6
c) What are its practical applications ? 8

P.T.O.

IV. 7) Write notes on :

(4x4=16)

- a) Time separation pitch
- b) Onset disparities
- c) Binaural fusion
- d) MAA.

OR

8) a) What is MLD?

4

b) Describe a model to explain MLD.

12

V. 9) Define; consonance/dissonance. What factors determine consonance/dissonance ? 16

OR

10) Describe:

a) Any one musical scale.

if

b) Riddle of perfect pitch.

8

AB 040

II Semester M.Sc. (Audiology) Examination, May/June 2007 (Semester Scheme)

Audiology

Physiological Assessment of the Auditory System

Time : 3 Hours

Max. Marks : 80

- I. 1) Explain the instrumentation used for immittance evaluation. What are the essential features required in an impedances maker for an audiologist working in an ENT clinic ? 16
- OR
- 2) Discuss the developments in tympanometry in the past twenty years. 16
- 11.3) Describe the procedure for elicitation of non acoustic reflexes. What are the clinical applications of non acoustic reflexes ? 16
- OR
- 4) Discuss the factors that affect acoustic reflex adaptation. Discuss the usefulness and limitations of acoustic reflex adaptation. 16
- III. 5) Draft a research proposal to study the usefulness of multifrequency tympanometry in the diagnosis of low impedance pathologies. 16
- OR
- 6) Draft a research proposal to study the effect of age on the immittance evaluation. 16
- IV. 7) Discuss the parameters used in the interpretation of DPOAEs and their clinical value. 16
- OR
- 8) Critically evaluate the statement. "Measurement of OAEs has changed the scenario of diagnostic and rehabilitative audiology". 16
- V. 9) Compare the effects of ipsilateral, contralateral and binaural noise on OAEs. 16
- OR
- 10) Discuss the factors that affect measurement of TEOAEs. 16
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AB060

II Semester M.Sc. Examination, May/June 2007
(Semester Scheme)
Audiology
Implantable Devices for the Hearing Impaired

Time : 3 Hours

Max. Marks : 80

Instruction : Answer all questions.

- I. 1. a) Discuss the indications, otologic and audiological, which make the patients suitable for BAHA. Add a short note on contraindications also. **8**
- b) What factors would you consider in determining the effectiveness of middle ear implants, and why ? **8**
- OR
2. a) Discuss the safety issues relating to middle ear implants - surgery as well as device, **12**
- b) Bilateral fitment of BAHA. **4**
- II. 3. a) Why is a cochlear implant a better choice for certain hearing impaired children than hearing aids ? Justify your answer. **10**
- b) How would you consider success of a cochlear implant ? **6**
- OR
4. a) What processes are involved in the activation of a cochlear implant ? Why is remapping necessary ? **12**
- b) What factors would you consider to restore hearing when children suddenly stop responding to auditory input with their cochlear implants ? **4**
- III. 5. a) The psychophysical results obtained from a cochlear implant user provide information that defines the individualized speech processor program regardless of the strategy. Discuss this statement giving justification. **12**
- b) What is the ACE strategy ? **4**
- OR
6. Highlight the difference in the post implant psychophysical tests carried out, on children and adults. **16**

P.T.O.

- IV. 7. a) Describe activities that you would carry out and the parameters on which you train a child fitted with a cochlear implant. Place them in a continuum. 10
- b) How would you help an adult postlingual deaf fitted with a cochlear implant improve his speech production skills ? Focus on the training of suprasegmental features. 6

OR

8. a) How would you take advantages of the linguistic redundancy present at different levels to enhance speech perception in adults fitted with cochlear implants ? 8
- b) There is no good evidence that auditory-oral program produces better speech and language results than total communication in children fitted with cochlear implants. Justify your view on this statement. 8

- V. 9. a) Describe, in brief, the surgical placement of a brainstem implant ? 8
- b) Write a note on psychophysical tests carried out on persons fitted with an auditory brainstem implant. 8

OR

10. a) Is speech programming in brainstem implant the same as in cochlear implant ? What are the similarities and differences ? 8
- b) What further developments are required in brainstem implants for them to be accepted like cochlear implants ? 8