MSCSP/AB010

II Semester M.Sc. (Audiology) Examination, May/June 2004
(Semester Scheme)
Speech and Hearing
Neurophysiology of Hearing

Time: 3 Hours Max. Marks : 80

Instruction *: Answer all questions.*

I. a) Describe in detail the generation of endocochlear potential. Bring out clearly the role of cochlear fluids in the generation of evoked potentials. 16

OR

b) What is an action potential ? Where are the N1 and N2 of action potential generated ? What neural factors influence the latency and amplitude of action potential ? 11

II. a) Describe in detail the importance of IC and SOC in the coding of directional cues. 16

OR

b) Describe how frequency coding information is preserved from cochlea to cortical centres. 16

III. a) Explain the coding of speech stimuli in the auditory cortex. 8

b) Describe the role of auditory cortex in sound localization and ear selection. 8

c) What is a centrifugal pathway ? Mention the three known centrifugal pathways and describe the anatomy and physiology of any two of these pathways. 16

IV. a) Trace the efferent auditory pathways from the medial and lateral superior olivary complex to cochlear nuclei and describe their protective functions. 16

OR

b) Describe the major functions associated with inferior colliculus in the processing of auditory stimuli. 16

V. a) Describe briefly the role of any three neurotransmitters and their receptors in the cochlea and cochlear nucleus. 8

b) Bring out clearly how our knowledge of neurotransmitters has contributed to an understanding of the biology of cochlear function at the molecular level. 8

OR

c) What role neurotransmitters have in precipitating disorders of the auditory system ? Explain this with reference to noise induced hearing loss and tinnitus. 16

MSCSP/AB 020

I M.Sc. (Audiology) (II Semester) Examination, May/June 2004
(Semester Scheme)
Psychophysics of Audition in Normals

Time: 3 Hours Max. Marks: 80

***Instruction** : Answer all questions.*

I.I) a) Write notes on frequency resolution in cochlea. 8

b) Write notes on masking and excitation pattern of the basilar membrane. 8

OR

2) a) Compare forward and backward masking. *6*

b) Discuss the factors that determine forward and backward masking. 10

II. 3) Draft a research proposal to study factors affecting auditory adaptation. 16

OR

4) What are the cues utilized in the localization and lateralization of different types of signals ? 16

III. 5) a) Discuss the role of onset and ongoing disparities (characteristics of stimuli) in localization. 10

b) How is lateralization of transients effected ? 6

6) Discuss the factors involved in the localization of complex auditory signals. *l4*

IV. 7) a) Describe time-intensity trading and perception of distance. 8

b) What is MLD ? Mention its clinical implications. 8

OR

8) a) Describe any two models of binaural hearing. 10

b) Explain briefly on cues available for frequency perception. 6

V. 9) a) What are musical notes ?

b) Discuss the factors affecting perception of music. Is pitch perception different in music and speech ? If yes, how ? 14

OR

10) Write a research proposal to test the hypothesis that "perception of speech and music does not differ" 16

MSCSP/AB030

M.Sc. (II Semester) Examination, May/June 2004
(Semester Scheme)
Audiology
Speech Perception

Time: 3 Hours Max. Marks: 80

Instruction: Answer all the questions.

I. 1) a) What are the different methods of studying speech perception ? Elaborate on any one method. 8

b) Establish the relation between articulation, acoustics and perception. 8

OR

2) a) Critically evaluate the neurological theory of speech perception. 8

b) How does speech get coded in the auditory pathway ? Substantiate your answer. 8

. 3) a) What is the unit of speech perception? Is it a sound, syllable or beyond? Explain. 8

b) How does context facilitate speech perception ? Discuss at least two studies on this issue. 8

OR

4) a) Why is speech perception considered a complex process ? Discuss with reference to stops. 10

b) Write a note on coarticulatory effect of nasalization on adjacent vowels. 6_t

III. 5) a) How would you use your knowledge of dichotic listening in the field of speech andhearing? 12

b) Name tests that make use of dichotic listening. *4*

OR

6) a) What are the sources of evidence that the two halves of the brain are specialized for speech and language differently ? 4

b) How are consonants and vowels perceived in dichotic stimulation. 12

IV. 7) a) Describe any theory of short term memory and mention its merits and demerits. 10

b) How does human speech perception differ from animal perception ? *6*

OR

8) a) Is speech perception in humans specialized ? Substantiate your answer. 10

b) Discuss the stages of memory in relation to speech perception. 6

V. 9) a) Explain the heart rate dishabituation procedure of infant speech perception highlighting its limitations. 10

b) Infant perception is universal. Explain. 6

10) a) Discuss different theories of infant speech perception. 10

b) In what ways infant speech perception differs from adult *speech preception 6*

MSCSP/AB040

II Semester M.Sc. (Audiology) Examination, May/June 2004
(Semester Scheme)
Physiological Assessment of the Auditory System

Time: 3 Hours Max. Marks: 80

***Instruction**: Answer all the questions.*

1. a) Describe and critically evaluate the Vanhysuese classification of multicomponent tympanometry. 16

OR

b) Discuss the factors that affect tympanometry. 16

2. a) Write an essay on acoustic reflex latency. 16

OR

b) Write an essay on acoustic reflex adaptation. 16

3. a) Discuss the research needs in multifrequency tympanometry to strengthen its clinical application. 16

OR

b) Discuss the research needs in OAE to strengthen its clinical application. 16

4. a) Critically evaluate the conventional and revised classification of OAEs and their significance. 16

OR

b) Discuss the principle of instrumentation used for measurement of OAEs. 16

5. a) Discuss the clinical applications of OAEs. What are its limitations ? *16*

OR

b) Discuss the relationship between SOAE and tinnitus. Quote relevant research. 16