

[KZ 0811]

AUGUST 2011

Sub. Code: 2303

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST YEAR

PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES

Q.P. Code: 802303

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain the ascending and descending auditory pathway with a neat diagram.
2. Explain the transformer action of the middle ear.
3. List the causes of congenital and acquired hearing loss.

II. Write notes on:

(8 x 5 = 40)

1. What is cochlear microphonics?
2. What is pinna shadow effect?
3. Explain the growth of Audiology since World War II.
4. Explain the loudness contour.
5. Write the properties of the DB scale.
6. What is monaudiometry's syndrome?
7. What are the precautions you take while testing for AC and BC?
8. What is Bing test?

III. Short Answers on:

(10 x 3 = 30)

1. What is acquired hearing loss?
2. What is localization?
3. Draw and label the parts of the stapes.
4. List any 6 syndromes associated with hearing loss.
5. What is pitch?
6. What is resonance frequency?
7. What are standing waves?
8. What is MAF?
9. List the test for posture and equilibrium.
10. What are the benefits of binaural hearing?

[LA 0811]

FEBRUARY 2012

Sub. Code: 2303

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST YEAR

PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES

Q.P. Code: 802303

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Any three sensorineural causes of hearing loss.
2. Principle, procedure and interpretation of audiometric version of weber and Bing test.
3. Instrumental calibration of AC transducer.

II. Write notes on:

(8 x 5 = 40)

1. Importance of case history.
2. MAP and MAF.
3. Anatomy of tympanic membrane.
4. OHCs Vs IHCs.
5. Role of binaural hearing.
6. Factors affecting IA.
7. Fusion Infered test.
8. Otosclerosis.

III. Short Answers on:

(10 x 3 = 30)

1. Inertial mode of bone conduction hearing.
2. SAL test.
3. Audiometric zero.
4. RETSPL.
5. Phones and sones.
6. DLI.
7. Narrow band noise.
8. Calibration of audiometer.
9. Masking.
10. Shadow curve.

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY**FIRST YEAR****PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES***Q.P. Code: 802303***Time : Three Hours****Maximum : 100 marks****Answer ALL questions in the same order.****I. Elaborate on:**

	Pages (Max.)	Time (Max.)	Marks (Max.)
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- | | | | |
|--|---|---------|----|
| 1. The three theories of bone conduction. | 7 | 20 min. | 10 |
| 2. Anatomy of the inner ear with appropriate diagrams. | 7 | 20 min. | 10 |
| 3. Contents of paediatric case history and its relevance in audiological evaluation. | 7 | 20 min. | 10 |

II. Write Notes on:

- | | | | |
|---|---|---------|---|
| 1. The various branches of audiology. | 4 | 10 min. | 5 |
| 2. Merits, demerits and interpretation of Rinne test. | 4 | 10 min. | 5 |
| 3. Inter aural attenuation and the different modes of crossover. | 4 | 10 min. | 5 |
| 4. Different audiometric configurations associated with various pathologies. | 4 | 10 min. | 5 |
| 5. Phons and Sones. | 4 | 10 min. | 5 |
| 6. Free field testing. | 4 | 10 min. | 5 |
| 7. Characteristics of binaural hearing. Explain the role of inter aural level and inter aural phase differences in binaural hearing. | 4 | 10 min. | 5 |
| 8. What is the sound pressure level of a sound whose absolute pressure is $4 \times 10^4 \mu\text{Pa}$ (sound pressure reference- $2 \times 10^1 \mu\text{Pa}$) .[Given $\log 2 = .3, \log 3 = .47$]. | 4 | 10 min. | 5 |

III. Write Answers on:

- | | | | |
|---|---|--------|---|
| 1. Cone of light. | 2 | 4 min. | 3 |
| 2. The clinical features of any 3 syndromes associated with hearing loss and their type of inheritance. | 2 | 4 min. | 3 |
| 3. When masking should be done for air conduction and its purpose. | 2 | 4 min. | 3 |
| 4. Remote masking and central masking. | 2 | 4 min. | 3 |
| 5. Sound pressure and power. | 2 | 4 min. | 3 |
| 6. Difference limen for intensity. | 2 | 4 min. | 3 |
| 7. Types of masking noises. | 2 | 4 min. | 3 |
| 8. Differences between echo and reverberation. | 2 | 4 min. | 3 |
| 9. Draw and label the parts of the auricle. | 2 | 4 min. | 3 |
| 10. Posterior wall of middle ear. | 2 | 4 min. | 3 |

[LC 0212]

FEBRUARY 2013

Sub. Code: 2303

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST YEAR

PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES

Q.P. Code: 802303

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Theories of Bone Conduction.
2. Factors affecting air conduction thresholds in Puretone Audiometry.
3. Draw a neat diagram of Organ of Corti and explain its parts.

II. Write notes on:

(8 x 5 = 40)

1. Branches of audiology.
2. Muscles of middle ear.
3. Semi-circular canals.
4. Decibel.
5. Occlusion effect.
6. Types of stimuli used for masking.
7. Types of audiometers.
8. Criteria used for air conduction and bone conduction masking.

III. Short Answers on:

(10 x 3 = 30)

1. Mel.
2. Transduces.
3. Wardenberg Syndrome.
4. Calibration.
5. Binaural Hearing.
6. Carhart notch.
7. Interaural attenuation.
8. Otoscope.
9. Pinna effect.
10. Nystagmus.

[LD 0212]

AUGUST 2013

Sub. Code: 2303

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST YEAR

PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES

Q.P. Code: 802303

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Procedures involved in AC and BC testing in PTA
2. Highlight the importance of case history in identifying the cause of hearing loss.
3. Ascending and descending Auditory and vestibular pathways.

II. Write notes on:

(8 x 5 = 40)

1. Binaural hearing.
2. Branches of Audiology.
3. Phones and sones.
4. Masking dilemma in bilateral symmetrical conductive hearing loss.
5. Schwabath test.
6. Equal Loudness contours.
7. MAF and MAP.
8. Biological calibration.

III. Short Answers on:

(10 x 3 = 30)

1. Action Potentials.
2. Cochlear microphonics.
3. dL for frequency.
4. dL for intensity
5. Head shadow effect.
6. Pinna shadow effect.
7. Types of masking noise.
8. Bing Test.
9. Define Masking.
10. Interaural Attenuation.

[LE 0212]

FEBRUARY 2014

Sub. Code: 2303

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST YEAR

PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES

Q.P. Code: 802303

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Critically evaluate theories of bone conduction.
2. Causes of hearing loss in children.
3. Middle ear transformer action.

II. Write notes on:

(8 x 5 = 40)

1. Walls of the middle ear.
2. Factors aiding the localization in horizontal plane.
3. Scope of Audiology.
4. Tuning fork tests.
5. Minimal audible pressure & Minimum audible field.
6. Different audiogram patterns.
7. Case history in audiology.
8. Central auditory pathway.

III. Short Answers on:

(10 x 3 = 30)

1. Outer hair cell.
2. Eustachian tube-differences between adults and paediatric population.
3. Muscles associated with Eustachian tube functioning.
4. Interaural attenuation.
5. Sones & phones.
6. Pinna.
7. Classification of hearing loss based on degree.
8. Semicircular canals.
9. Acoustic reflex.
10. Critical band concept in masking.

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST YEAR

PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES

Q.P. Code: 802303

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain the blood supply to cochlea with a neat diagram.
2. Elaborate on methods of testing AC procedures.
3. What are tuning fork tests? Explain any two in detail.

II. Write notes on:

(8 x 5 = 40)

1. Explain the factors to consider while constructing an audiometric room.
2. Explain the importance of casehistory in identifying the type and degree of hearing loss.
3. With a neat block diagram explain the parts of an audiometer.
4. Elaborate on the minimum effective masking level for BC masking.
5. Explain the differences between screening and diagnostic pure tone testing.
6. What is linearity check? Explain the objective calibration of bone vibrator.
7. Explain the factors affecting Interaural Attenuation.
8. Explain the non genetic causes of hearing loss.

III. Short Answers on:

(10 x 3 = 30)

1. What is zero dB?
2. What is occlusion effect?
3. Name the transducers used in puretone testing.
4. When do we get a corner audiogram?
5. What is the rationale behind using pure tones in testing hearing sensitivity?
6. What is head shadow effect?
7. What is the importance of using insert earphones during masking?
8. Which organs in the ear help maintain balance and equilibrium?
9. What is biological calibration?
10. What are the materials used for testing speech recognition threshold?

[LH 0815]

AUGUST 2015

Sub. Code: 2303

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

FIRST YEAR

PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES

Q.P. Code: 802303

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Scope of audiology.
2. Physiology of the inner ear.
3. Theories of bone conduction.

II. Write notes on:

(8 x 5 = 40)

1. Descending auditory pathway.
2. Factors affecting pure tone audiometry.
3. Screening vs diagnostic testing.
4. Different noise used in audiometric testing.
5. Rinne test with its interpretation, merits and demerits.
6. Difference limen for intensity and frequency.
7. Genetic causes of hearing loss.
8. Staircase method for estimating threshold.

III. Short Answers on:

(10 x 3 = 30)

1. Branches of audiology.
2. Define: Threshold of audibility.
3. Masking dilemma.
4. Weber's law.
5. Body baffle effect.
6. Localization and lateralization.
7. Occlusion effect.
8. Permissible ambient noise in audiometric rooms.
9. Cross over and cross hearing.
10. SRT and SRS.

**B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
FIRST YEAR
PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES**

Q.P. Code: 802303

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. What is sound? Explain the encoding of sound parameters in auditory system.
2. Describe various branches of audiology and its scope in India.
3. Describe various causes of conductive hearing loss.

II. Write notes on:

(8 x 5 = 40)

1. Compare Air conduction and bone conduction mechanisms.
2. Differentiate central versus peripheral hearing loss.
3. Mel and Bark scale.
4. Osseo tympanic mode of bone conduction.
5. Fourier analysis of complex tones.
6. How do you find out the relative loudness of 2 different sounds?
7. Write a case demonstration with masking dilemma.
8. Chronic otitis media.

III. Short answers on:

(10 x 3 = 30)

1. Types of stimuli used for audiometric testing.
2. What are the AC transducers used for determining thresholds?
3. Loudness matching.
4. Pressure equalization tubes.
5. Eustachian tube and its function.
6. Pediatric audiology.
7. Outer hair cells.
8. Head shadow effect.
9. Cross hearing.
10. Sloping hearing loss.

**B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
FIRST YEAR
PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES**

Q.P. Code: 802303

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on: **(3 x 10 = 30)**

1. How do you test the hearing loss and real life performance of the subject with hearing loss using audiometer?
2. How middle ear acts as a n impedance matching system? Explain the function of middle ear in detail.
3. Explain the various neurological causes of hearing loss with its clinical characteristics.

II. Write notes on: **(8 x 5 = 40)**

1. Compare MAP and MAF.
2. Development of field of Audiology in India.
3. What happens when you add tone of different frequencies with same intensity? Explain with examples.
4. Various classification of audiograms.
5. Explain various subjects related factors affecting pure tone thresholds.
6. Explain plateau method in detail.
7. Explain procedure for audiometric weber test.
8. What are the psychophysical scales used to measure sound perception?

III. Short answers on: **(10 x 3 = 30)**

1. Masker and its types.
2. Differentiate ear canal occlusion and stenosis.
3. Compare various BC transducers.
4. Sound field testing.
5. Late onset hearing loss.
6. Action potentials.
7. Linear acceleration.
8. Schwabach test.
9. Biological Calibration.
10. Listening check of audiometers.

**B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
FIRST YEAR
PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES**

Q.P. Code: 802303

Time: Three hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on: **(3 x 10 = 30)**

1. Evolution and development of the field of audiology.
2. How middle ear acts as a transformer to facilitate hearing?
3. Draw a neat diagram and explain the ascending auditory pathway.

II. Write notes on: **(8 x 5 = 40)**

1. Distinguish between MAP and MAF.
2. Functions of utricle.
3. Explain weighting networks.
4. Different stages of progression of otitis media.
5. Explain the procedure, interpretation, merits and demerits of Rinne test.
6. What are the transducers used to perform pure tone audiometry?
7. Theories of bone conduction.
8. How thresholds are plotted in an audiogram?

III. Short answers on: **(10 x 3 = 30)**

1. High risk factors causing congenital hearing loss.
2. Cochlear microphonics.
3. Occlusion effect.
4. Phones.
5. Exostosis.
6. Function of stapedius muscle.
7. Draw a neat diagram of audiometer and label the parts.
8. Pinna shadow effect.
9. Volley theory.
10. Carhart notch.

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
FIRST YEAR
PAPER III – INTRODUCTION TO HEARING AND HEARING SCIENCES

Q.P. Code: 802303

Time: Three hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Illustrate the middle ear system with a neat diagram.
2. Importance of case history in aiding the diagnosis.
3. Explain the scope of audiology as a profession.

II. Write notes on:

(8 x 5 = 40)

1. TORCH complex.
2. Relation between phones and sones.
3. Distinguish between outer hair cell and inner hair cell.
4. Explain equal loudness contours.
5. Function of saccule.
6. Explain the procedure and interpretation of Schwabach test.
7. What are the different branches of audiology?
8. Noise induced hearing loss.

III. Short answers on:

(10 x 3 = 30)

1. Define threshold.
2. A - weighting network.
3. Cone of Light.
4. Minimal Audible Pressure.
5. Binaural summation.
6. Action potentials.
7. Cortilymph.
8. Timbre.
9. Pendred syndrome.
10. Interpretation of bing test.

**BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
FIRST YEAR
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Q.P. Code: 802303

Time: Three Hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain the transformer action of the middle ear.
2. Theories of bone conduction.
3. Describe various branches of audiology and its scope in India.

II. Write notes on:

(8 x 5 = 40)

1. Phones and Sones.
2. Audiogram Configurations.
3. Fourier Analysis.
4. Interaural attenuation.
5. Genetic causes of hearing loss.
6. Tuning fork tests.
7. Bing test- procedure, merits and demerits.
8. Equal loudness contours.

III. Short answers on:

(10 x 3 = 30)

1. Localization.
2. Standing Waves.
3. RET SPL.
4. Calibration.
5. Semicircular canals.
6. Audiometric zero.
7. Threshold of hearing.
8. Permissible noise level in audiometric room.
9. SRT vs SIS.
10. Action Potentials.
