

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY**SECOND YEAR****PAPER IV – DIAGNOSTIC AUDIOLOGY****Q.P. Code: 802314****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 need for test battery approach in Audiological diagnosis for cochlear pathology. Write three pure tone tests you will do for the same. | 7 | 20 min. | 10 |
| 2. Immittance audiometry & the clinical application of it in case of unilateral neural hearing Loss. | 7 | 20 min. | 10 |
| 3. Instrumentation, test procedure & factors affecting auditory brainstem responses. | 7 | 20 min. | 10 |

II. Write notes on:

- | | | | |
|--|---|---------|---|
| 1. Classification of oto acoustic emissions & measurement of oto acoustic emissions procedures & interpretation of test results. | 4 | 10 min. | 5 |
| 2. Electrocochleography- its valid usage in differential diagnosis. | 4 | 10 min. | 5 |
| 3. ANY three dichotic speech tests. | 4 | 10 min. | 5 |
| 4. Need for speech audiometry. Procedure to obtain speech reception threshold, speech identification score. | 4 | 10 min. | 5 |
| 5. RECRUITMENT phenomenon, loudness balance tests. | | | |
| 6. Reflexometry and the special tests in reflexometry. | 4 | 10 min. | 5 |
| 7. Vestibular testing –modern trend in vestibular testing. | 4 | 10 min. | 5 |
| 8. Variables influencing central auditory assessment. | 4 | 10 min. | 5 |

III. Short Answers on:

- | | | | |
|---|---|--------|---|
| 1. Minimal auditory capability test. | 2 | 4 min. | 3 |
| 2. Test findings in subjects with brainstem lesions. | 2 | 4 min. | 3 |
| 3. Binaural fusion test. | 2 | 4 min. | 3 |
| 4. Dichotic speech test of staggered spondaic word test. | 2 | 4 min. | 3 |
| 5. Lombard test – when do you administer it? | 2 | 4 min. | 3 |
| 6. Middle latency response and late latency response - their clinical applications. | 2 | 4 min. | 3 |
| 7. PI-PB function –its usage. | 2 | 4 min. | 3 |
| 8. Write about social adequacy index. | 2 | 4 min. | 3 |
| 9. Static immittance and how do gradient/ tympanometric width aid in diagnosis? | 2 | 4 min. | 3 |
| 10. Brief tone audiometry – specify the current trend in brief tone audiometry. | 2 | 4 min. | 3 |

[LD 0212]

AUGUST 2013

Sub. Code: 2314

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

SECOND YEAR

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain Test battery approach in auditory diagnosis and integration of results.
2. What are auditory evoked potentials? Explain the classification of auditory evoked potentials.
3. What is pseudo hypoacusis? How do you assess an individual with unilateral functional hearing loss?

II. Write notes on:

(8 x 5 = 40)

1. Short increment sensitivity index – test.
2. Bekesy audiometry.
3. Acoustic reflex pathway.
4. Electro cochleography.
5. Speech in noise test.
6. Filtered speech test.
7. Interpretation for alternate binaural loudness balance test.
8. Instrumentation for recording otoacoustic emissions.

III. Short Answers on:

(10 x 3 = 30)

1. Adaptation.
2. Cochlear amplifiers.
3. Strenger's principle.
4. Contra lateral effect.
5. Need for speech audiometry.
6. Definition of Central auditory processing disorders.
7. Pitch pattern test.
8. Factors affecting long latency responses.
9. Test materials for speech audiometry available in Indian languages.
10. Application of auditory evoked potentials.

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

SECOND YEAR

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain Instrumentation required for speech audiometry in detail.
2. Write the protocol for recording auditory brainstem responses on 6 month old infant.
3. How do you differentiate and interpret various pathologies using tympanometry?

II. Write notes on:

(8 x 5 = 40)

1. Most comfortable level.
2. Monaural low redundancy tests.
3. Interpretation of Bekesy audiometry.
4. Electrode montage for recording auditory evoked potentials.
5. Speech in noise test.
6. Positional tests.
7. Ipsilateral and contra lateral reflex testing.
8. Jewett peaks and its origin in Auditory brainstem responses.

III. Short Answers on:

(10 x 3 = 30)

1. Temporal integration.
2. Acoustic reflex.
3. Tympanometric width.
4. Middle latency responses.
5. Time compressed speech test.
6. Inter hemispheric dysfunction.
7. Cortical deafness.
8. Speech detection threshold.
9. Uncomfortable level.
10. Instrumentation for recording otoacoustic emissions.

[LF 0212]

AUGUST 2014

Sub.Code: 2314

**B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
SECOND YEAR
PAPER IV – DIAGNOSTIC AUDIOLOGY**

Q.P. Code: 802314

Time: Three hours

Maximum : 100 Marks

Answer All questions

I. Elaborate on:

(3 x 10 = 30)

1. Critically evaluate special tests with respect to its sensitivity and specificity. And design a test battery to evaluate retrocochlear pathologies.
2. What are various types of tympanogram and explain them with respect to middle ear physiology?
3. Name any two tests available for the assessment of distal portion of auditory nerve and describe them.

II. Write notes on:

(8 x 5 = 40)

1. Explain instrumentation for Bekesy audiometry with a neat diagram.
2. Acoustic reflex pathway.
3. Lombard reflex test.
4. SPAR test.
5. PGSR test – critically evaluate its application.
6. Auditory development of dichotic listening.
7. Screening test protocol for ABR in children.
8. Clinical implication of long latency responses.

III. Short answers on:

(10 x 3 = 30)

1. Strenger test.
2. Speech test for functional hearing loss in children.
3. Compound Action potential.
4. Acoustic susceptance.
5. SCAN test.
6. VEMP test.
7. Binaural interaction tests.
8. Cochlear integration.
9. Types of Bekesy audiometry patterns and its implications.
10. Olivocochlear bundle and its function.

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

SECOND YEAR

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Construct a test battery to assess auditory cortical functions in adults. Justify them.
2. How objective tests are superior to subjective tests in assessment of pseudohypocacus? Explain them in detail.
3. Explain concept of impedance in detail.

II. Write notes on:

(8 x 5 = 40)

1. Carhart's tone decay test.
2. Dichotic digit test.
3. Fowlers test.
4. Neurodiagnostic application of ABR.
5. Instrumentation for impedance audiometry.
6. Explain Reflex decay test with its usefulness.
7. Speech in noise test.
8. Compare and contrast TEOAE and DPOAE.

III. Short Answers on:

(10 x 3 = 30)

1. Types of recruitment.
2. Amount of tone decay.
3. Resistance.
4. What is reflex adaptation?
5. Binaural fusion test.
6. Pioneers in the field to develop CAPD test.
7. High level SISI.
8. Jewett Peaks.
9. Endogenous potentials.
10. Cochlear microphonics.

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

SECOND YEAR

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain masking procedure for speech audiometry in detail.
2. Compare the protocols and factors affecting long latency responses and auditory brainstem responses.
3. Describe various tests to identify brain stem lesions.

II. Write notes on:

(8 x 5 = 40)

1. Stranger test.
2. Filtered speech test.
3. Fowlers test.
4. Speech identification scores.
5. PI- PB function.
6. Plateau method.
7. Brief Tone audiometry.
8. Middle latency response.

III. Short Answers on:

(10 x 3 = 30)

1. Articulation index.
2. Signal to noise ratio.
3. Differential amplification.
4. Kemp echos.
5. Delayed auditory feedback test.
6. Psychogenic causes of hearing loss.
7. Name monaural low redundancy test.
8. Dichotic stimulus presentation.
9. Test developed in India for speech audiometry.
10. Contralateral acoustic reflex.

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

SECOND YEAR

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain various tests available to evaluate cochlear functioning.
2. Explain the concept of immittance.
3. Justify the need for test battery approach and explain its importance in assessment of central auditory processing disorders.

II. Write Notes on:

(8 x 5 = 40)

1. Brief tone audiometry.
2. Reflex adaptation test.
3. Factors affecting long latency responses.
4. Vestibular evoked myogenic potentials.
5. Speech in noise test.
6. Rapid alternating speech test.
7. Lip reading test.
8. Different types of tympanograms.

III. Short Answers on:

(10 x 3 = 30)

1. Fourier analysis.
2. Temporal Integration.
3. Monoaural loudness balance test.
4. Limitations of speech audiometry.
5. Instrumentation of Distortion product otoacoustic emissions – block diagram.
6. Stimulation rate.
7. Time window.
8. Temporal ordering tasks.
9. Subtle principle.
10. Stranger principle.

**B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
SECOND YEAR
PAPER IV – DIAGNOSTIC AUDIOLOGY**

Q.P. Code: 802314

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. List and explain tests for temporal processing.
2. Explain Principle of Immittance with suitable graphs.
3. Write notes on types of OAE and give its clinical application.

II. Write notes on:

(8 x 5 = 40)

1. State and explain the tests for adaptation.
2. Justify the need for test battery approach with its advantages and disadvantages.
3. Give the protocol for ABR recording.
4. Write notes on Electronystagmography.
5. Give the clinical application of ECochG.
6. Write notes on dichotic speech test.
7. Give the clinical application of immittance audiometry.
8. What is articulation index? Give its clinical significance.

III. Short answers on:

(10 x 3 = 30)

1. Define Central Auditory Processing.
2. List the tests for functional hearing loss.
3. Classify the CAPD tests based on sensitivity to identify the Brainstem and cortical lesions.
4. How will you interpret Multicomponent tympanometry?
5. State the clinical application of ABR.
6. State Stenger's principle.
7. Toynbee procedure for Eustachian tube dysfunction.
8. Mention the special test to identify cochlear pathology.
9. State the factors that affect higher order potentials.
10. When will you perform speech masking? Illustrate with example.

**B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
SECOND YEAR
PAPER IV – DIAGNOSTIC AUDIOLOGY**

Q.P. Code: 802314

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Give the protocol for ABR procedures and give its clinical application.
2. “Middle ear system is a complex system” Justify this statement with the understanding the principle of immittance.
3. List and explain the Dichotic tests for central auditory processing.

II. Write notes on:

(8 x 5 = 40)

1. Explain the need for test battery approach and its importance in differential diagnosis.
2. Name the audiological tests to rule out Functional hearing loss. Describe the possible results under each test.
3. “Speech audiometry is important diagnostic procedure in audiological evaluation”. Justify the statement with suitable clinical conditions.
4. Describe the procedure and interpretation of Eustachian tube dysfunction.
5. Explain caloric test.
6. Mention the tests of adaptation. Explain their procedure and interpretation.
7. Write notes on types of OAE.
8. List and describe in brief the tests for monaural low redundancy.

III. Short answers on:

(10 x 3 = 30)

1. Types of tymapanogram give the middle ear pathologies associated with each type.
2. What is tympanometric peak pressure?
3. What is Roll over phenomenon? Mention the formula and criteria for differential diagnosis.
4. Name the special tests that help in differential diagnosis for Retro-cochlear pathology.
5. Mention the clinical application of late latency response potentials.
6. State the subject related factors that affect evoked potentials.
7. What is Lombard effect?
8. Give the clinical application of OAE.
9. Mention the classification for CAPD tests based on the process assessed.
10. Explain speech in noise test.

**BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
SECOND YEAR
PAPER IV – DIAGNOSTIC AUDIOLOGY**

Q.P. Code: 802314

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Explain various tests available to evaluate cochlear functioning.
2. Explain the concept of Immittance.
3. Justify the need for test battery approach and explain its importance in assessment of central auditory processing disorders.

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

1. Brief tone audiometry.
2. Reflex Decay Test.
3. Factors affecting long latency responses.
4. Neurodiagnostic applications of ABR .
5. Speech in noise test.
6. Rapid alternating speech test.
7. Lip reading test.
8. Different types of tympanograms.

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

1. Fourier analysis.
2. Temporal Integration.
3. Monoaural loudness balance test.
4. Limitations of speech audiometry.
5. Instrumentation of Distortion product otoacoustic emissions – block diagram.
6. Stimulation rate.
7. Time window.
8. Temporal ordering tasks.
9. Subtlety principle.
10. Stenger principle.

**BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
SECOND YEAR**

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Construct a test battery to assess functional hearing loss in adults.
2. Compare protocols and factors affecting long latency responses and auditory brainstem responses.
3. Describe various tests to identify brain stem lesions.

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

1. Types of OAEs.
2. Filtered speech test.
3. Fowlers test.
4. Speech identification scores and its clinical applications.
5. PI- PB function.
6. Plateau method.
7. Clinical applications of Bekesy Audiometry.
8. Middle latency response.

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

1. Articulation index.
2. Signal to noise ratio.
3. Differential amplification.
4. Kemp echos.
5. Delayed auditory feedback test.
6. Psychogenic causes of hearing loss.
7. Name monaural low redundancy test.
8. Dichotic stimulus presentation.
9. Test developed in India for speech audiometry.
10. Contralateral acoustic reflex.

**BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
SECOND YEAR**

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Design a test battery to differentiate Cochlear vs Retrocochlear pathology.
2. Various types of tympanograms and its clinical correlation with middle ear pathologies.
3. Principle, procedure and clinical interpretation of any two speech tests to detect Pseudohypocusis.

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

1. Bekesy audiometry.
2. Stapedial reflex pathway.
3. Protocol for ABR threshold estimation in children and adults.
4. Clinical implications of MLR.
5. Usefulness of multifrequency tympanograms.
6. Caloric Test.
7. Doerfler – Stewart Test.
8. Variables influencing central auditory assessment.

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

1. MCL.
2. Social adequacy index.
3. Dynamic Range.
4. Functions of Eustachian tube.
5. Precautions in performing immittance test.
6. Binaural hearing.
7. Jewett peaks.
8. Cochlear microphonics.
9. Binaural Fusion test.
10. Role of utricle and saccule in balance.

**BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
SECOND YEAR**

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time: Three Hours

Maximum: 100 Marks

Answer all questions

I. Elaborate on:

(3 x 10 = 30)

1. Objective vs Subjective tests – importance in assessment of functional hearing loss.
2. Protocol for LLR and its clinical applications.
3. Signs, symptoms and dichotic speech tests of CAPD.

II. Write notes on:

(8 x 5 = 40)

1. Breiftone audiometry.
2. Reflex decay test with its clinical application.
3. TEOAE vs DPOAE.
4. Any one test for recruitment.
5. Classification of AEPs.
6. Electronystagmography.
7. Protocol for neurodiagnosis using ABR.
8. SPIN Test.

III. Short answers on:

(10 x 3 = 30)

1. Multi component tympanogram.
2. Effect of rate on ABR.
3. Tonotopic organization in basilar membrane.
4. Importance of efferent auditory pathway.
5. Ipsilateral acoustic reflex pathway.
6. Temporal integration.
7. Latency.
8. Lever action in middle ear.
9. Need for speech audiometry.
10. Hair cells.

**BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY
SECOND YEAR**

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code: 802314

Time: Three Hours

Maximum: 100 Marks

Answer all questions

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

1. Construct a central auditory test battery to assess a 10 year old child who has difficulty in listening in class room and justify them?
2. Objective vs subjective tests – importance in assessment of functional hearing loss.
3. Mention the test procedures that can be conducted using immittance audiometry and explain each in brief.

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

1. Jerger box patterns in reflexometry.
2. Vestibular evoked myogenic potentials.
3. STAT.
4. SPAR Test.
5. Clinical implications of LLR.
6. PI – PB function.
7. MLD.
8. Eletrocochleography.

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

1. Auditory closure.
2. Contralateral acoustic reflex pathway.
3. Types of recruitment.
4. Tonotopic organization in basilar membrane.
5. Lip – reading test.
6. Semi circular canal.
7. UCL.
8. Importance of efferent auditory pathway.
9. Effect of low redundancy in CAPD.
10. ABLB.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 2314

(AUGUST 2020 EXAM SESSION)

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

SECOND YEAR (Regulation 2010-2011)

PAPER IV – DIAGNOSTIC AUDIOLOGY

Q.P. Code : 802314

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Write the protocol for recording auditory brainstem responses on 6 month old infant.
2. Explain concept of impedance in detail.
3. Justify the need for test battery approach and explain its importance in assessment of central auditory processing disorders.

II. Write notes on:

(8 x 5 = 40)

1. Brief tone audiometry.
2. Rapid alternating speech test.
3. Vestibular evoked myogenic potentials.
4. Give the protocol for ABR recording.
5. Write notes on dichotic speech test.
6. Write notes on types of OAE.
7. List and describe in brief the tests for monaural low redundancy.
8. Factors affecting long latency responses.

III. Short answers on:

(10 x 3 = 30)

1. Temporal Integration.
2. Signal to noise ratio.
3. Kemp echoes.
4. Contralateral acoustic reflex.
5. Precautions in performing immittance test.
6. Role of utricle and saccule in balance.
7. Jewett peaks.
8. Functions of Eustachian tube.
9. Binaural hearing.
10. Multi component tympanogram.
