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

[AHS 1022] **OCTOBER 2022** **Sub. Code:2803**

M.Sc. AUDIOLOGY
FIRST SEMESTER (From 2021-2022 onwards)
PAPER III – COCHLEAR PHYSIOLOGY

Q.P. Code: 282803

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2x20=40)**

1. Describe the Micro and Macro structures of Cochlea.

2. Explain in detail the Instrumentation, Protocol, and Clinical applications of ECochG.

II. Write notes on: **(10x6=60)**

1. Characteristics and factors affecting TEOAEs.
2. Developmental changes in the cochlea.
3. Clinical applications of OAEs.
4. Efferent control of cochlear hair cells.
5. Techniques to study basilar membrane physiology.
6. Phylogentic development of cochlea.
7. Fine structure DPOAEs.
8. Inner hair cell physiology.
9. Endocochlear potentials.
10. Innervations of cochlea.

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

[AHS 0523] **MAY 2023** **Sub. Code: 2803**

M.Sc. AUDIOLOGY DEGREE EXAMINATION
FIRST SEMESTER (From 2021-2022 onwards)
PAPER III – COCHLEAR PHYSIOLOGY

Q.P. Code: 282803

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2x20=40)**

1. Explain in detail the Physiology of Cochlea.

2. Describe the Instrumentation, Characteristics, Factors affecting and Clinical application of DPOAEs, and TEOAEs.

II. Write notes on: **(10x6=60)**

1. Ontogenetic development of cochlea.
2. Clinical applications of ECochG.
3. Efferent control of cochlear hair cells.
4. Cochlear regeneration.
5. Contralateral Suppression of OAEs.
6. Physiology of auditory system in non-mammalian species.
7. Blood supply to cochlea.
8. Instrumentation for ECochG.
9. Techniques to study hair cell physiology.
10. Macro-anatomy of the cochlea.

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

[AHS 1023] **OCTOBER 2023** **Sub. Code: 2803**

M.Sc. AUDIOLOGY
FIRST SEMESTER (From 2021-2022 onwards)
PAPER III – COCHLEAR PHYSIOLOGY

Q.P. Code: 282803

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2x20=40)**

1. Explain the classification of OAEs. Describe the Instrumentation, Characteristics and Factors affecting SFOAEs and TEOAEs.

2. Write an essay on Macro and Microanatomy of cochlea.

II. Write notes on: **(10x6=60)**

1. Cochlear regeneration.
2. Protocol for recording ECochG.
3. Evolution of human cochlea.
4. Ipsilateral suppression of OAEs.
5. Endo cochlear potentials.
6. Effect of advancing age on cochlea.
7. Cochlear non-linearity.
8. Efferent control of cochlear hair cells.
9. Clinical application of ECoChG.
10. Homeostatic mechanisms in cochlea.

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

[AHS 0524] **MAY 2024** **Sub. Code: 2803**

M.Sc. AUDIOLOGY
FIRST SEMESTER (From 2021-2022 onwards)
PAPER III – COCHLEAR PHYSIOLOGY

Q.P. Code: 282803

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2x20=40)**

1. Describe various physiological mechanism of basilar membrane and outer hair cells.

2. Explain different protocols for recording electrocochleography and various factors affecting them.

II. Write notes on: **(10x6=60)**

1. Anatomy of efferent nervous system and its connections to cochlea.
2. Arterial supply to cochlea.
3. Flow of fluids in cochlea.
4. Stria vascularis and its functions.
5. Nutrients related to sensory cell physiology.
6. Changes in cochlea for geriatric population.
7. Fine structure distortion product otoacoustic emissions.
8. Characteristics of various types of otoacoustic emissions.
9. Endocochlear potentials.
10. Interpretation of electrocochleography.

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

[AHS 0525] **MAY 2025** **Sub. Code:2803**

M.Sc. AUDIOLOGY
FIRST SEMESTER (From 2021-2022 onwards)
PAPER III – COCHLEAR PHYSIOLOGY

Q.P. Code: 282803

Time: Three hours **Answer ALL Questions** **Maximum: 100 Marks**

I. Elaborate on: **(2x20=40)**

1. Discuss in detail the macroanatomy and microanatomy of the cochlea.

2. Write in detail on Instrumentation and techniques for recording DPOAEs, Factors affecting DPOAEs and Suppression of DPOAEs.

II. Write notes on: **(10x6=60)**

1. Discuss the Ontogenetic development of cochlea.
2. List and explain the techniques used to study basilar membrane physiology.
3. What are endocochlear potentials and why are they important?
4. Explain in detail (with diagram) the afferent and efferent nerve innervations of cochlea.
5. What are the age-related changes observed in the cochlea?
6. Describe the inner hair cell physiology.
7. Write a short note on the Instrumentation and techniques for recording SOAEs.
8. Explain the cochlear non linearity.
9. Discuss the clinical applications of EcochG.
10. Explain the role of Efferent control of cochlear hair cells.

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