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

**[AHS 1022]** **OCTOBER 2022** **Sub. Code: 2804**

**M.Sc. AUDIOLOGY**
**FIRST SEMESTER (From 2021-2022 onwards)**
**PAPER IV – NEUROPHYSIOLOGY OF HEARING**

***Q.P. Code: 282804***

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

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

1. Describe the generation, properties and propagation of action potentials in the auditory nerve.

2. Explain different types of cells and their functional properties in the cochlear nucleus.

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

1. Write a note on non linearity of the auditory nerve.
2. Importance of brainstem for localization of sound.
3. Tonotopic organization at the superior olivary complex.
4. Intensity coding in the auditory nerve.
5. Explain the anatomy of olivocochlear bundle.
6. Explain the divisions of the auditory cortex with the neat diagram.
7. Neurotransmitters in the auditory system.
8. Plasticity of auditory cortex.
9. Explain on the protective function of the auditory efferent system.
10. Compare and contrast MSO and LSO Fibers.

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

**[AHS 0523]** **MAY 2023** **Sub. Code: 2804**

**M.Sc. AUDIOLOGY DEGREE EXAMINATION**
**FIRST SEMESTER (From 2021-2022 onwards)**
**PAPER IV – NEUROPHYSIOLOGY OF HEARING**

***Q.P. Code: 282804***

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

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

1. Explain the coding of frequency and intensity in the auditory nerve.

2. Explain the anatomy of auditory cortex with the neat diagram.

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

1. Role of sub cortical structures in sound localization.
2. Neuromodulators of the auditory systems.
3. Role of auditory efferent system and hearing.
4. Plasticity of the auditory cortex.
5. Tonotopic organization in the auditory cortex.
6. Anatomy of superior olivary complex with the neat diagram.
7. Describe the different types of responses seen in the cochlear nucleus cells.
8. Types of synapses seen in the auditory system.
9. Compare and contrast MSO and LSO Fibers.
10. Anatomy of MGB with neat diagram.

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

**[AHS 0524]** **MAY 2024** **Sub. Code: 2804**

**M.Sc. AUDIOLOGY**
**FIRST SEMESTER (From 2021-2022 onwards)**
**PAPER IV – NEUROPHYSIOLOGY OF HEARING**

***Q.P. Code: 282804***

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

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

1. Mechanism of localization at various level of auditory system.

2. Various cells in the Cochlear Nucleus Complex (CNC) and its properties with the neat diagram.

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

1. Structure and organization of the auditory nerve.
2. Anatomy of Inferior coliculus.
3. Function of Efferent auditory pathway
4. Neurotransmitters and its importance in stimulus coding.
5. Plasticity of auditory cortex.
6. Explain on the protective function of the auditory efferent system.
7. Compare and contrast MSO and LSO Fibers.
8. Properties of Action potential in the auditory nerve.
9. Write a note on non linearity of the auditory nerve.
10. Tonotopicity of the auditory cortex.

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

**[AHS 0525]** **MAY 2025** **Sub. Code: 2804**

**M.Sc. AUDIOLOGY**
**FIRST SEMESTER (From 2021-2022 onwards)**
**PAPER IV – NEUROPHYSIOLOGY OF HEARING**

***Q.P. Code: 282804***

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

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

1. Anatomy and physiology of superior olivary complex with neat diagram.

2. Coding of signals in the auditory cortex.

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

1. Types of auditory nerve fibres.
2. Anatomy of Medial geniculate body.
3. Functioning of auditory efferent system.
4. Post-stimulus time histograms associated with different cells in cochlear nucleus.
5. Intensity coding at auditory nerve.
6. Neurotransmitters and neuromodulators of Auditory nerve.
7. Binaural interaction component.
8. Role of auditory cortex in sound localization.
9. Tonotopic organization of inferior colliculus.
10. The core-belt concept.

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