

B.Sc. AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

THIRD YEAR

PAPER V – NOISE MEASUREMENTS AND HEARING CONSERVATION

Q.P. Code: 802325

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. The need for hearing conservation programme and steps in hearing conservation.
2. Claims for hearing loss – compare Indians and westerns regulation.
3. Indian studies, Acts and regulation related to noise.

II. Write notes on:

(8 x 5 = 40)

1. Permanent threshold shift, speech interference level and articulation index.
2. Two audiologic evaluations other than PTA and brief on them.
3. Measurement of traffic noise and community noise.
4. Three merits and demerits of ear protective devices.
5. California variation in laws.
6. Types of noise.
7. American Acts on damage risk criteria.
8. Steps to be followed in hearing conservation programme.

III. Short Answers on:

(10 x 3 = 30)

1. Expand and explain:
(a) CHABA (b) AAOO (c) ASA – Z245.
2. Three properties of ear protective devices.
3. Tolerance and stability
4. What is calibration and mention the need for calibration.
5. Tests for susceptibility.
6. Audioanalgesia, effects of noise on CNS and other senses.
7. Expand and write on PNdB & PNL.
8. TTS and two examples for TTS.
9. Impulsive noise and intermittent noise.
10. Noise criteria curves and noise reduction rating.

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Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Explain the calibration of headphones, bone vibrator and speech.
2. What are the auditory effects of noise?
3. Explain about the Hearing Conservation Program.

II. Write notes on:

(8 x 5 = 40)

1. Temporary Threshold Shift and the recovery patterns.
2. Damage Risk Criteria.
3. Tests for assessing susceptibility.
4. Findings of VEMP in NIHL.
5. Sound Level Meter.
6. Noise Reduction Ratio.
7. Sources and types of noise.
8. High Frequency Audiometry and its advantages.

III. Short Answers on:

(10 x 3 = 30)

1. Impact and impulse noise.
2. Frequency analyzer.
3. Harmonic distortion.
4. Exchange rate.
5. Weighting networks.
6. Temporal summation.
7. Recruitment.
8. Importance of speech audiometry.
9. EPA act related to compensation of hearing loss.
10. Noise Induced Permanent Threshold Shift.

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Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Effects of noise on hearing.
2. Instrumentation and procedure for indoor and outdoor measurement of ambient noise.
3. Need for hearing conservation program and steps in hearing conservation program.

II. Write notes on:

(8 x 5 = 40)

1. Damage Risk Criteria and procedure to establish damage risk criteria.
2. Environmental protection Agency and OSHA.
3. Advantages of ear plugs.
4. Noise control.
5. Assessment of community noise.
6. Worker training program.
7. Two procedures on Audit program effectiveness.
8. Effects of noise on work efficiency and performance.

III. Short Answers on:

(10 x 3 = 30)

1. a) Impulse noise b). fluctuating noise.
2. The risk of significant permanent damage versus repeated exposure to noise.
3. Time weighted average equivalent.
4. Difference between noise isolating headphones and noise cancelling headphones.
5. "Noise free hours" and its importance.
6. Common noise exposure levels in dBA scale for:
a) jet engine. b) average conversation, c) thunderclap d) food blender.
7. Expand : a) PNdB b) PNL c) EPNL d) NL
8. Articulation Index and Speech Interference Level.
9. Audio analgesic effects on central nervous system.
10. Tests for susceptibility.

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Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. Audiological findings in NIHL.
2. Types of EPD's with its merits and demerits.
3. Biological and Instrumental Calibration of AC transducers.

II. Write notes on:

(8 x 5 = 40)

1. Differentiate TTS and PTS. Mention the recovery patterns in TTS.
2. Compare and contrast PNL, EPNL .
3. Assessment of susceptibility.
4. Measurement of traffic noise.
5. Instrumentation for measurement of NIHL.
6. Air force regulation.
7. Types of weighting networks in SLM and its rules.
8. Procedure for Indoor measurement of noise.

III. Short Answers on:

(10 x 3 = 30)

1. Define Noise.
2. Impulsive Vs Impact Noise.
3. Speech Interference Level.
4. Noise reduction rating.
5. Baseline Audiogram.
6. CHABA.
7. Noise isolating headphones.
8. Fluctuating noise.
9. Importance of noise free hours.
10. Vascular changes due to noise.

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Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(3 x 10 = 30)

1. How do you plan Hearing Conservation program for Industries?
2. Methods to evaluate for claims in NIHL.
3. Non auditory effects of noise.

II. Write Notes on:

(8 x 5 = 40)

1. How does noise affect the performance and work efficiency?
2. Different types of noises with examples.
3. Importance of OAE and Impedance in NIHL.
4. Measurement of Aircraft noise.
5. Compare and Contrast ear muffs and ear plugs.
6. Importance of periodical hearing assessment in NIHL.
7. Noise criteria curves.
8. What is Presbycusis? How do you apply correction in NIHL?

III. Short Answers on:

(10 x 3 = 30)

1. Name three sources of noises.
2. Steady Vs non-steady noise.
3. TTS.
4. PNdB.
5. SNR.
6. Baseline audiometry.
7. Sound level meter.
8. AAOO.
9. Importance of Speech audiometry.
10. Walsh – Healey Act.

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Q.P. Code: 802325

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Instrumentation and Procedure for various indoor and outdoor noise measurements.
2. What are the non – auditory effects of noise?
3. Explain any five acts related to noise.

II. Write notes on:

(8 x 5 = 40)

1. Speech Interference Level.
2. Explain the tests of susceptibility.
3. Damage Risk Contours.
4. Instrumental calibration of headphones.
5. Distinguish between temporary threshold shift and permanent threshold shift.
6. Attenuation characteristics of various Ear Protective Devices (EPD's).
7. Explain Perceived noise in dB (PNdB) and Perceived noise level (PNL).
8. What are the different sources of noise?

III. Short answers on:

(10 x 3 = 30)

1. Signal to noise ratio (SNR).
2. Fletcher point eight formula.
3. Effects of noise on work efficiency and performance.
4. Steps in hearing conservation program.
5. Distinguish between ear muffs and Helmets.
6. Audiological findings in NIHL.
7. Compound threshold shift.
8. Metabolic changes due to noise exposure.
9. Impact Noise.
10. Write a note on test environment for performing audiological evaluation.

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Q.P. Code: 802325

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

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

1. Importance of hearing conservation program and explain the procedure.
2. Instrumental calibration of air conduction and bone conduction transducers.
3. Define noise. Explain different sources of noise.

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

1. Effects of noise on work efficiency and performance.
2. Noise Criteria Curves (NCC).
3. Damage risk criteria.
4. Properties of Ear Protective Devices (EPD's).
5. Auditory Toughening.
6. Ear plugs Vs Ear muffs.
7. Occupational Safety and Health Act (OSHA).
8. Recovery patterns in temporary threshold shift.

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

1. Audioanalgesia.
2. AAOO method.
3. Effective Perceived noise level (EPNL).
4. Environmental Protection Agency.
5. Air force regulation.
6. Intermittent noise.
7. Role of OAE in the diagnosis of NIHL.
8. Write a note on stability of Ear Protective Devices (EPD's).
9. Vascular changes due to noise exposure.
10. Effects of noise on sleep.

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THIRD YEAR
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Q.P. Code: 802325

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

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

1. Audiological findings in noise induced hearing loss.
2. Calibration of transducers used in audiometric evaluation.
3. Significance of hearing conservation program and steps involved in the same.

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

1. Properties of Ear protective devices that determine their efficacy.
2. Attenuation characteristics of Ear protective devices.
3. Damage Risk Criteria.
4. Indian noise standards.
5. High frequency audiometry.
6. Types of noise.
7. Tests for susceptibility.
8. Articulation Index.

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

1. Toughening.
2. Special hearing protectors.
3. Perceived Noise Level.
4. Occupational Safety and Health Act.
5. Noise Reduction Rating (NRR).
6. Fletcher point eight formula.
7. Sound level meter.
8. Noise Dosimeter.
9. Environmental Protection Agency.
10. Walsh Healey Act.

[LM 0218]

FEBRUARY 2018

Sub. Code: 2325

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

PAPER V – NOISE MEASUREMENTS AND HEARING CONSERVATION

Q.P. Code: 802325

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Histopathological changes related to excessive noise exposure.
2. Instrumentation and procedure for measurement of noise levels.
3. Types of Ear Protection Devices, their merits and demerits.

II. Write notes on:

(8 x 5 = 40)

1. Articulation Index.
2. Tests for susceptibility.
3. Audiometric findings in NIHL.
4. Temporary Threshold Shift and recovery patterns.
5. Attenuation.
6. Speech Interference Level.
7. Effect of noise on communication.
8. Indian noise standards.

III. Short answers on:

(10 x 3 = 30)

1. Special hearing protectors.
2. Noise criteria curves.
3. Effective Perceived Noise Level.
4. High frequency audiometry.
5. Noise Dosimeter.
6. Damage risk contours.
7. Types of noise.
8. Sources of noise.
9. Sound Level Meter.
10. Biological Calibration.

[LN 0818]

AUGUST 2018

Sub. Code: 2325

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

PAPER V – NOISE MEASUREMENTS AND HEARING CONSERVATION

Q.P. Code: 802325

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Non-auditory effects of noise.
2. Factors affecting the efficacy of Ear Protection Devices.
3. Role of legislation in preventing the hazardous effects of noise.

II. Write notes on:

(8 x 5 = 40)

1. Damage Risk Contours.
2. Instrumental calibration of transducers.
3. Attenuation.
4. Audiometric findings in NIHL.
5. Types of noise.
6. Speech Interference Level.
7. Effect of noise on communication.
8. Permanent threshold shift and Temporary Threshold Shift.

III. Short answers on:

(10 x 3 = 30)

1. Committee on Hearing Bioacoustics and Biomechanics.
2. Fletcher point eight formula.
3. Occupational Safety and Health Act.
4. Noise Reduction Rating (NRR).
5. Sound level meter.
6. Walsh Healey Act.
7. Calibration.
8. Articulation Index.
9. Steps in Hearing Conservation Program.
10. Sources of noise.

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

PAPER V – NOISE MEASUREMENTS AND HEARING CONSERVATION

Q.P. Code: 802325

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Auditory effects of noise exposure.
2. Histopathological changes with noise exposure.
3. Effects of noise on communication.

II. Write notes on:

(8 x 5 = 40)

1. Articulation index.
2. Perceived noise level.
3. Audioanalgesia.
4. Non-auditory effects of noise on other senses.
5. Dosimeter.
6. Audiometry in NIHL.
7. Brief tone audiometry.
8. Biological calibration for AC and BC transducers.

III. Short answers on:

(10 x 3 = 30)

1. Occupational safety and health act.
2. Air force regulation.
3. Environmental protection agency.
4. Walsh-Healey act.
5. Indian noise standards.
6. Effect of noise on work efficiency and performance.
7. Weighting networks in sound level meter.
8. Types of sound level meters.
9. Toughening.
10. Signal to noise ratio.

[LP 0819]

AUGUST 2019

Sub. Code: 2325

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

PAPER V – NOISE MEASUREMENTS AND HEARING CONSERVATION

Q.P. Code: 802325

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Tests for susceptibility for NIHL.
2. Hearing conservation program.
3. Role of legislation in preventing the hazardous effects of noise.

II. Write notes on:

(8 x 5 = 40)

1. Temporary threshold shift recovery patterns.
2. Mechanical changes with noise exposure.
3. Sound level meter.
4. Indian noise standards.
5. Oto-acoustic emissions in NIHL.
6. Instrumental calibration for AC and BC transducers.
7. Measurement of industrial noise.
8. Damage risk criteria.

III. Short answers on:

(10 x 3 = 30)

1. Vascular changes with noise exposure.
2. Metabolic changes with noise exposure.
3. Noise reduction rating.
4. Noise criteria curves.
5. Bounce effect.
6. Fletcher point eight formula.
7. Asymptotic threshold shift.
8. Walsh Healey Act.
9. Damage risk contours.
10. High frequency audiometry in NIHL.

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

THIRD YEAR

PAPER V – NOISE MEASUREMENTS AND HEARING CONSERVATION

Q.P. Code: 802325

Time: Three Hours

Maximum : 100 Marks

Answer All Questions

I. Elaborate on:

(3 x 10 = 30)

1. Need for hearing conservation program.
2. Evaluation of attenuation characteristics of various ear protective devices.
3. Instrumentation for indoor noise measurements.

II. Write notes on:

(8 x 5 = 40)

1. Different types of noise.
2. Damage risk criteria.
3. Indian noise standards.
4. Calibration of head phones.
5. Factors in claim evaluation.
6. Environmental protection agency.
7. Effects of noise on work efficiency and performance.
8. Tests of susceptibility

III. Short answers on:

(10 x 3 = 30)

1. Temporary threshold shift.
2. Dosimeter.
3. Ear muffs.
4. AMA method.
5. Mechanical changes occurring due to noise exposure.
6. Weighting networks.
7. Manual audiometer.
8. Effective perceived noise level.
9. Intermittent noise.
10. Audioanalgesia.

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

[LR 1220]

**DECEMBER 2020
(AUGUST 2020 EXAM SESSION)**

Sub. Code: 2325

**BACHELOR IN AUDIOLOGY & SPEECH LANGUAGE PATHOLOGY
THIRD YEAR – (Regulation from 2010-2011)
PAPER V – NOISE MEASUREMENTS AND HEARING CONSERVATION
Q.P. Code: 802325**

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Need for Hearing Conservation program.
2. Evaluation of Attenuation characteristics of various ear Protective Devices.
3. Instrumentation for Indoor Noise measurements.

II. Write notes on:

(8 x 5 = 40)

1. Different types of Noise.
2. Damage Risk criteria.
3. Indian Noise standards.
4. Calibration of Head phones.
5. Factors in Claim Evaluation.
6. Environmental Protection agency.
7. Effects of Noise on Work Efficiency and Performance.
8. Tests of Susceptibility

III. Short answers on:

(10 x 3 = 30)

1. Temporary Threshold Shift.
2. Dosimeter.
3. Ear Muffs.
4. AMA Method.
5. Mechanical changes occurring due to Noise Exposure.
6. Weighting Networks.
7. Manual Audiometer.
8. Effective Perceived Noise level.
9. Intermittent Noise.
10. Audio Analgesia.

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

[AHS 0122]

JANUARY 2022

Sub. Code: 2325

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSION)

BACHELOR IN AUDIOLOGY AND SPEECH LANGUAGE PATHOLOGY

THIRD YEAR – (Regulation from 2010-2011)

PAPER V – NOISE MEASUREMENTS AND HEARING CONSERVATION

Q.P. Code: 802325

Time: Three Hours

Answer ALL questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Elaborate on the steps in hearing conservation program.
2. Describe the instrumentation for outdoor noise measurements.
3. Damage risk criteria and Damage risk contours.

II. Write notes on:

(8 x 5 = 40)

1. Special hearing protectors.
2. Auditory toughening.
3. Recovery patterns in Temporary Threshold Shift.
4. Different sources of noise.
5. Noise Criteria Curves.
6. Calibration of bone vibrator.
7. Occupational Safety and Health Act.
8. Non auditory effects due to noise exposure.

III. Short answers on:

(10 x 3 = 30)

1. Correction for presbycusis.
2. Testing environment when carrying out audiological evaluation.
3. Air Force Regulations.
4. Speech Interference Level.
5. Automatic audiometer.
6. Ear plugs.
7. CHABA.
8. Impact noise.
9. Articulation Index.
10. Compound Threshold Shift.
