



University of Fort Hare
Together in Excellence

Programme: BSc in Speech-Language Pathology

Department: Rehabilitative studies

Faculty of Health Sciences

East London Campus

1st SEMESTER EXAMINATION: JUNE 2023

INTRODUCTION TO SPEECH & HEARING SCIENCE

TIME: 3 HOURS

CODE: ISH112E

MARKS: 100

THIS EXAMINATION PAPER CONSISTS OF 4 PAGES INCLUDING THIS PAGE

EXAMINERS

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INSTRUCTIONS

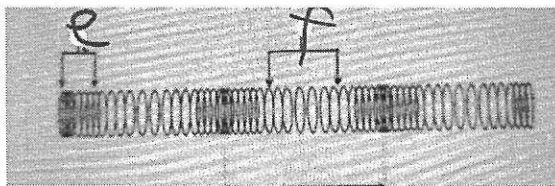
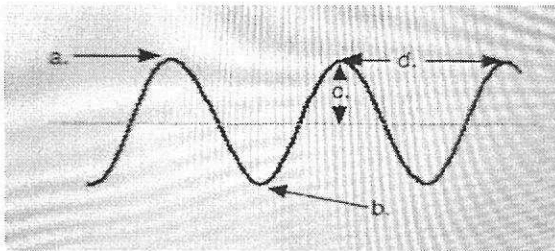
1. Read all questions carefully before you write
2. Ask for clarities where the question is not clear to you
3. Answer all the questions, total of 8 questions
4. Answer all questions in order (Question 1, 2,3,4,5,6,7 & 8)

Question 1

1. What is the meaning of acoustics? (2)
2. What is the meaning of psychoacoustics? (2)
3. What are the two types of sound sources?(2)
4. What are the three types of sound transmitting media? (6)

Question 2

1. What are the two main categories or types of wave forms? (4)
2. Label the following diagrams from a to f (6)



Question 3

State whether the following questions are True or False (10)

1. Interference of sound waves is when two or more waves interact at the same time.
2. Refraction is the absorption of sound.
3. The louder the sound, the bigger the wave amplitude.
4. Sound waves are longitudinal in nature.
5. Sound does not occur spontaneously, there has to be a source.

Question 4

1. Describe the process of voice production. (6)
2. What acoustic factor distinguishes male, female and children's voices? (2)
3. What is the feature that distinguish English vowels [i, u, a] articulation? (2)
4. What are the three factors that influence consonant production/articulation? (6)

Question 5

Perception of sound requires a coordination of numerous structures of the Auditory system, describe the process of sound perception starting from the outer ear to the brain, include at least five the structures involved in this process. (10)

Question 6

1. Which term is described/defined in the following statements? (10)
 - a) This is the term used to describe the subjective impressions of the highness or lowness of a sound.
 - b) A subjective experience as contrasted with the purely physical force of intensity
 - c) This relates to the vibrating ability a mass or object
 - d) A moving object must overcome a certain amount of resistance to its movement.
 - e) A statement of probability -- the point at which the sound will yield a reaction 50% of the time.
2. What is the unit of measurement for the following psychoacoustic features? (8)
 - a) Frequency
 - b) Intensity
 - c) Sound/ Noise Level
 - d) Loudness

Question 7

What are the factors affecting absolute threshold when testing an individual's hearing?

Mention at least five and give an example of each (10)

Question 8

1. Explain the following behaviour of sound waves. (10)

- Transmission
- Reflection
- Absorption
- Interference
- Diffraction/Refraction

2. List the four possible sound fields. (4)

The end