

## **MAIN EXAMINATION**

MACHAKOS UNIVERSITY

UNIVERSITY EXAMINATION

SCHOOL OF EDUCATION

DEPARTMENT OF EDUCATIONAL PSYCHOLOGY, SPECIAL NEEDS EDUCATION

BACHELOR OF EDUCATION (SPECIAL NEEDS EDUCATION)

ESN 455: AUDIOLOGY AND ELECTROACOUSTIC

### **INSTRUCTIONS**

**Answer question one and any other two questions**

Q 1 a) Define the following terms as used in audiology

- i. Audiology (1 mark)
  - ii. Hearing (1 marks)
  - iii. Amplification (1 mark)
  - iv. Hearing loss (1 mark)
- b) Differentiate between speech production and speech perception (4marks)
- c) Describe what Educational Audiology is (2marks)
- d) Explain the external ear canal in a human being (4 marks)
- e) State the three small bones of the ear in order starting with the one attached to the tympanic membrane (2marks)
- f) Describe the function of the vestibular system (2marks)
- g) Explain what an audiometer is (3marks)
- h) Explain the following terms as used in audiology
- i. Attenuation (2marks)

ii. Threshold of hearing (2marks)

i) Describe the function of an audiogram (4marks)

Q2) Discuss sound conduction from the source up to when it gets to the brain in the hearing process (20marks)

Q3) Mentioning their function, explain the auditory system in a human being (20 marks)

Q4) Discuss the hearing levels classified according to the degree of hearing loss (20marks)

Q5) Explain factors that affects speech reception and production (20 marks)

## **SUPRIMENTARY EXAMINATION**

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ESN 455: AUDIOLOGY AND ELECTROACOUSTICS

### **INSTRUCTIONS**

Answer question one and any other two questions

Q1 a) Explain the function of a otoscope (2marks)

b) Describe what is a decibel (2marks)

c) Describe the difference between speech production and speech and speech perception (4marks)

d) State three responsibilities of an educational audiologist (3 marks)

e) Explain what clinical audiology is (3marks)

f) Identify three types of sound (3 marks)

g) Describe what is diffraction of sound is? (3marks)

h) State the three main parts of a human ear (3 marks)

i) Discuss the function of the cochlear in a human ear (4marks)

j) Explain what an audiogram is? (3 marks)

Q2. Discuss the benefits of a hearing screening programme within the school (20marks)

Q3. Describe the conduction of sound through the ear (20marks)

Q4.) Discuss hearing loss according to the location of the disease within the ear (20 marks)

Q5) Explain the structure of the ear from the outer ear to the brain (20marks)

**MACHAKOS UNIVERSITY**

**UNITE CODE : 455**

**UNIT TITLE : AUDIOLOGY AND ELECTROACOUSTICS**

**COURSE PURPOSE**

To equip the student teachers with knowledge on testing and using testing equipments on hearing

Course outline

- Terms and concepts used in audiology
- Branches of audiology
- Nature of sounds
- Characteristics of sound
- The auditory system
- Measurement of hearing
- Classification of hearing loss
- Factors affecting speech reception and production
- Identification and intervention measures for learners with hearing impairment
- Amplification devices
- Structure and functioning of hearing aid
- Amplification systems

**References**

Tucker 1. And Nolan, M (1984) Educational audiology London: Croom Helm

Starkey Technical Division (2000) Introduction to audiology and amplification  
Manchester UK