



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF HUMANITIES AND SOCIAL SCIENCES

DEPARTMENT OF COMMUNICATION STUDIES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF JOURNALISM AND MASS COMMUNICATION

HMC 4404: SOUND ENGINEERING

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2024

TIME: 2HOURS

DATE: Pick Date DECEMBER 2024

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID)

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

a. Define the following terms as used in sound engineering ;

1. Bit Depth (2marks)
2. Bit Rate (2marks)
3. Bandwidth (2marks)
4. Decibel (2marks)
5. Sound waves (2marks)
6. Frequency (2marks)
7. pure tone (2marks)
8. A wavefront (2marks)
9. wavelength (2marks)
10. Amplitude (2marks)
11. Reinforcement (2marks)
12. Cancellation (2marks)
13. Distortion (2marks)
14. Signal processing (2 marks)
15. Equalizer (2 marks)

Question TWO

With examples, discuss the following processes as applied in sound engineering

- a) The sample-and-hold technique (6 marks).
- b) Digital Clipping and how to avoid it (6 marks).
- c) Analog recording versus digital recording (6 marks).
- d) Aliasing in sound engineering. (2 marks)

Question THREE

- a) Explain audio sampling and its importance in sound engineering (6 marks).
- b) Explain any TWO elements that affect the speed of sound. (4 marks).
- c) Discuss any FIVE editing modifications that may be made to sound files. (10 marks).

Question FOUR

Microphones are essential tools in sound recording, each type suited to specific audio environments and recording needs. With the aid of labeled diagrams, describe the three primary categories of microphones. In your response, elaborate on the technical characteristics of each type, their common applications in various audio settings, and provide a thorough analysis of their advantages and disadvantages in practical use.

(20 marks)

Question FIVE

A home studio setup is typically less complex than a professional studio, often featuring a limited number of microphones, no mixing console, and a basic audio. Using a diagram, explain the signal flow within a home studio environment, highlighting the key components and their roles in the audio recording process. (20 marks)