

TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF ARCHITECTURE & BUILT ENVIRONMENT

COURSE: DIPLOMA IN ARCHITECTURE

UNIT: BUILDING ENVIRONMENT SCIENCE (ACOUSTIC DESIGN)

UNIT CODE: EAR 2302

SPECIAL / SUPPLEMENTARY EXAMINATION

SERIES: SEPTEMBER 2017

INSTRUCTIONS TO CANDIDATES:

THIS PAPER CONSISTS OF FIVE QUESTIONS. ANSWER ANY THREE QUESTIONS. MAXIMUM MARKS FOR EACH PART OF A QUESTION ARE AS SHOWN.

QUESTION ONE

Explain how architectural acoustics can be integrated in design of specialized built environments for the audio comfort of the users. (20 Marks)

QUESTION TWO

Explain the following:

- a) explain the human hearing mechanism (10 Marks)
- b) various properties of sound (10 Marks)

QUESTION THREE

Differentiate behavior of sound in an open field and in enclosed spaces (20 Marks)

QUESTION FOUR

Describe the following (20 Marks)

- a) Architectural acoustics
- b) Noise control
- c) Reverberation time
- d) Reflection of sound

QUESTION FIVE

Explain room acoustics for any of the following spaces (20 Marks)

- a) Theaters
- b) Auditoria
- c) Broadcasting studio