



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology
DEPARTMENT OF MEDICAL ENGINEERING

DIPLOMA IN MEDICAL ENGINEERING
(DME 213)

EHL 2206
STEAM SYSTEMS

END OF SEMESTER EXAMINATIONS
SERIES: APRIL, 2014
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- Question *ONE* is *COMPULSORY*.
 - Attempt any other *TWO* questions.
- This paper consists of **3 PRINTED** pages

QUESTION ONE (COMPULSORY)

(a) Figure 1 shows an inverted Bucket Steam Trap. Describe parts marked A, B, C and E

(8 marks)

(b) Explain how the steam trap operates during the process.

(22 marks)

QUESTION TWO

- (a) With aid of a diagram, explain Ethylene oxide sterilization process. **(10 marks)**
- (b) Draw and explain the microbial growth and decline graph. **(10 marks)**

QUESTION THREE

- (a) Describe the term “Calorific value” of a material **(3 marks)**
- (b) Explain the **FOUR** causes of steam losses during steam transportation/distribution. **(8 marks)**
- (c) Describe the **THREE** types of steam and respective uses. **(9 marks)**

QUESTION FOUR

- (a) Differentiate between the following:- **(4 marks)**
- (i) Steam trap
 - (ii) Steam separator
- (b) Explain any **FOUR** reasons why steam is widely used for both heating and drying processes. **(8 marks)**
- (c) Describe any **FOUR** considerations for the selection of an appropriate disinfectant. **(8 marks)**

QUESTION FIVE

In condensate removal from steam line the phrase “Steam trap set” is commonly used. Using standard symbols, sketch and describe functions of the components in their respective positions. **(20 marks)**