TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MEDICAL ENGINEERING

(DME 315 Y2 SII)

EHL 2206: STEAM SYSTEMS

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date May 2016

<u>**Instructions to Candidates**</u>
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) Figure 1 shows inverted bucket steam trap. Name 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 graph, explain the Ethylene Oxide sterilisation process   **10 Marks**

b) Draw and explain the microbial growth and decline graph   **10 Marks**
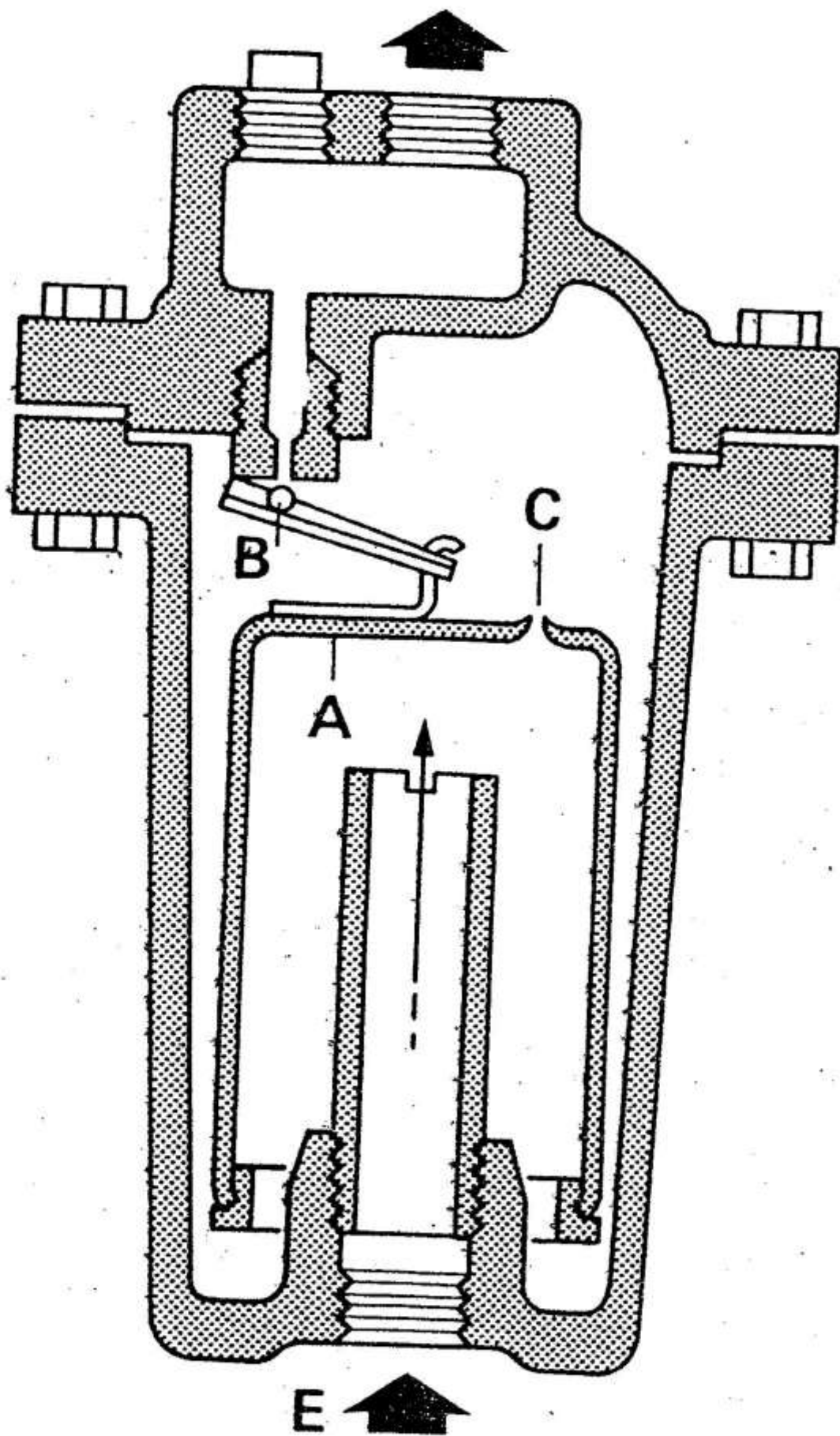
Question THREE

a) Explain 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   **9 Marks**

Question FOUR

a) Differentiate between the following:-

   i) Steam trap

   ii) Steam separator   **4 Marks**

b) Explain any **TWO** reasons why steam is widely used for heating, drying

   and drive processes   **8 Marks**

c) Describe any **FOUR** considerations for the selection of an appropriate

   disinfectant   **8 Marks**

Question FIVE

In condensate removal from steam distribution line, the phrase

"steam trap set" is commonly used. Using standard symbols, sketch the

Components, in their respective positions (in the steam trap set) which comprise
the steam trap set and the functions of each component   **20 Marks**

Fig. 1 Inverted Bucket Trap