



**TECHNICAL UNIVERSITY OF MOMBASA**

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**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**

**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.**

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### Question ONE

a) Figure 1 shows open top bucket steam trap. Name parts marked

**A, B, C, D, E and F**

**12 Marks**

b) Explain how the steam trap operates during the process

**18 Marks**

### Question TWO

a) Explain any **FOUR** methods used for testing the efficiency of an autoclave **8 Marks**

b) Describe the principle operation of Little Sister steriliser using a labelled diagram of the component layout

**12 Marks**

### Question THREE

a) Explain any **FOUR** reasons why steam is widely used for heating, drying and drive processes

**12 Marks**

b) 300 litres of water has to be heated from 27°C to 55°C using steam heat energy. Taking the specific heat capacity of water to be 4.2kJ/kg/°C, calculate the amount of heat energy lost by steam

**8 Marks**

### Question FOUR

a) Explain the **THREE** factors which should be considered when

selecting/choosing the appropriate steam trap for a condensate removal **9 Marks**

b) In many cases the condensate is returned or recycled to the boiler.

Explain the **FOUR** advantages of doing so

**11 Marks**

### Question FIVE

a) With aid of a sketch/graph, explain porous load sterilisation cycle

**10 Marks**

b) i) Explain the term “disinfectant”

ii) Describe any **FOUR** methods of disinfection in hospitals

**10 Marks**

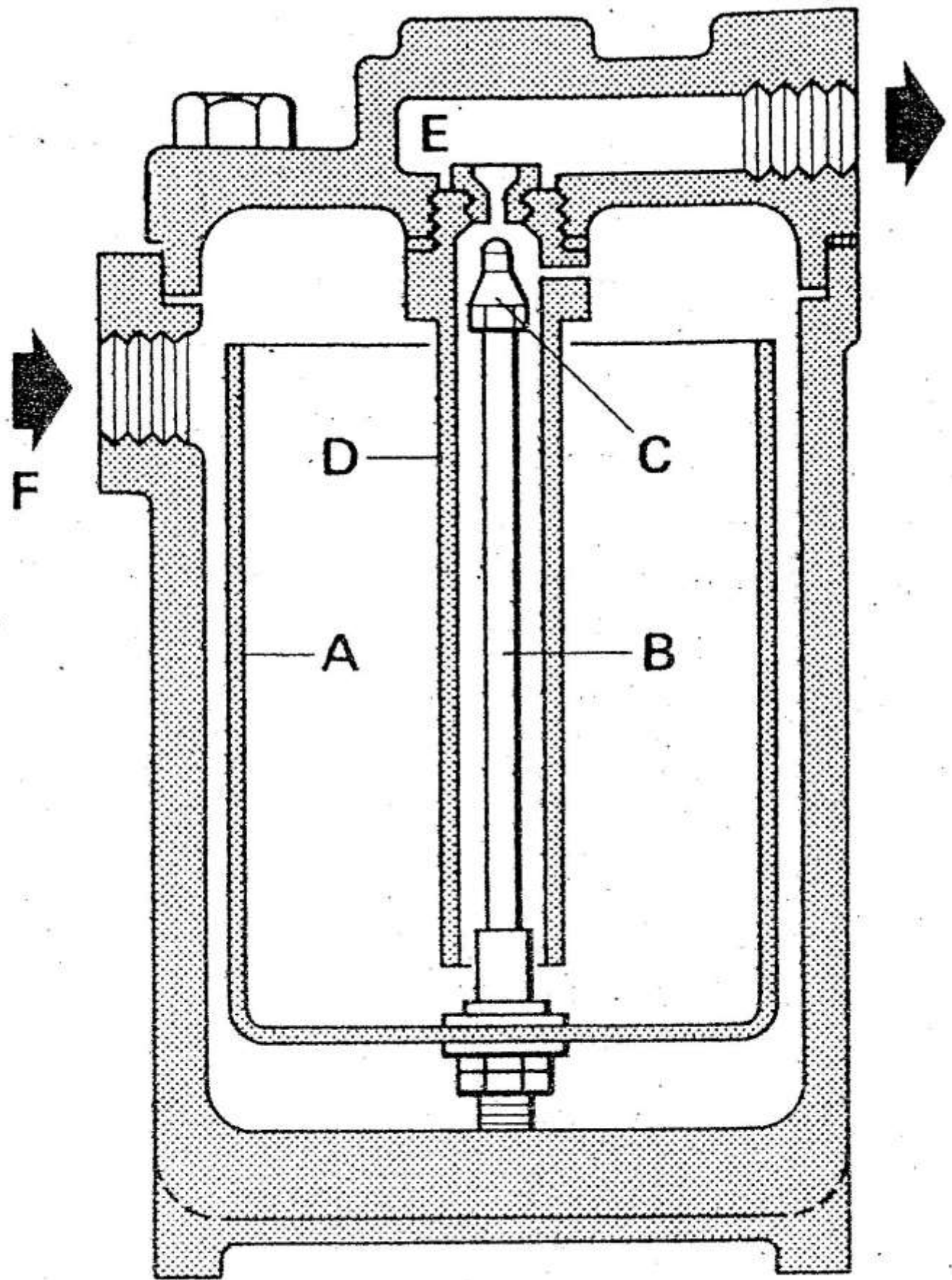


Fig. 1 Open Top Bucket Trap