



**TECHNICAL UNIVERSITY OF MOMBASA**

---

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

**UNIVERSITY EXAMINATION FOR:**

DIPLOMA IN MEDICAL ENGINEERING

EHL 2203: HOSPITAL SERVICE SYSTEMS

SPECIAL/SUPPLEMENTARY EXAMINATION

**SERIES: SEPTEMBER 2018**

**TIME: 2HOURS**

**DATE:** Pick Date Sep 2018

**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) Explain the function(s) of the following pipe fittings:-

- i) Union
- ii) T-joint
- iii) Nipple
- iv) Socket
- v) 90°Elbow

**10 Marks**

b) With reference to construction and loading, explain the **THREE** main types of washing machines

**10 Marks**

c) Define the following terms as used in water:-

- i) Pure water
- ii) Clean water
- iii) Hard water
- iv) Soft water
- v) PH

**10 Marks**

## Question TWO

a) Explain any **FIVE** main groups of plumbing tools

**10 Marks**

b) Explain the following terms /components as used in washing machine process:-

- i) Tumbling
- ii) Spinning
- iii) Solenoid valve
- iv) Load
- v) Detergent

**10 Marks**

### Question THREE

a) Explain the **SIX** essential parameters of a pump

**12 Marks**

b) Figure 01 shows a semi-rotary pump or wing pump. Explain how the pump works during pumping process

**8 Marks**

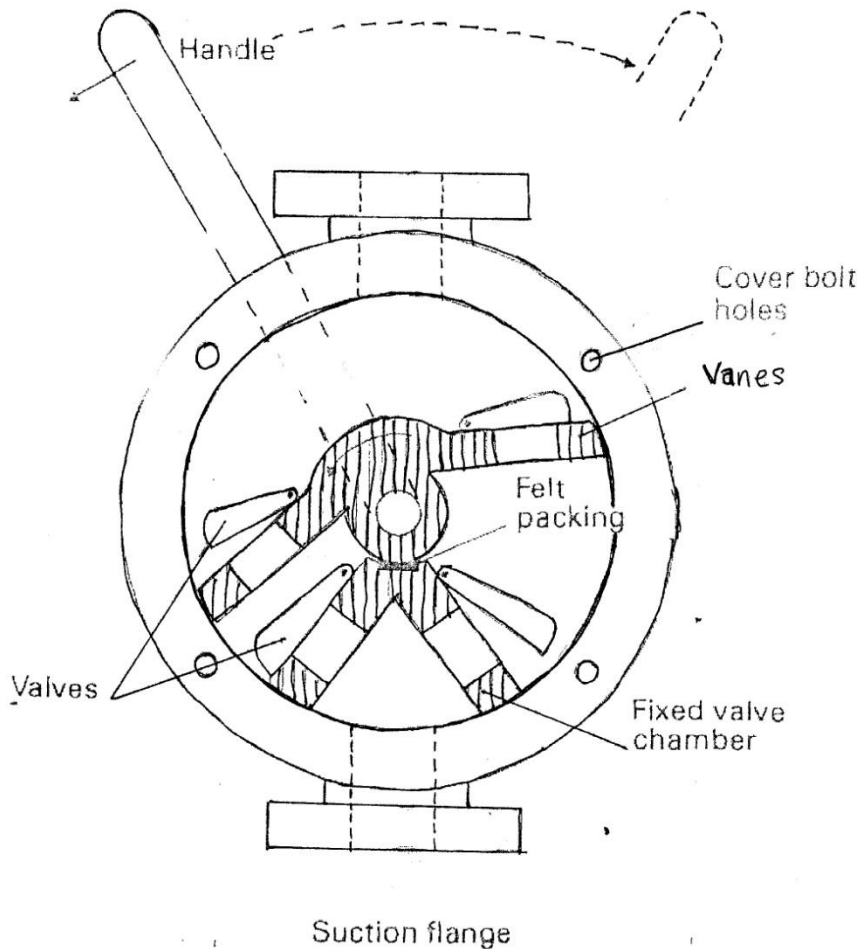


FIG. 01: SEMI-ROTARY PUMP.

### Question FOUR

a) Outline the sequences involved in an automatic machine washing process

**16 Marks**

b) Explain the following terms as used in washing machine

i) Control

ii) Automatic control

iii) A process

**4 Marks**

## Question FIVE

a) Differentiate between the following pipe fittings:-

- i) Valve
- ii) Tap

**4 Marks**

b) State **FIVE** materials from which pipes and pipe fittings are manufactured from

**12 Marks**

c) Classify the **FOUR** types of examinations that may be carried out on drinking water

**4 Marks**