



# TECHNICAL UNIVERSITY OF MOMBASA

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FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

**UNIVERSITY EXAMINATION FOR:**

**DIPLOMA IN MEDICAL ENGINEERING**

**EHL 2107: WATER & PLUMBING**

**END OF SEMESTER EXAMINATION**

**SERIES: AUGUST 2017**

**TIME: 2 HOURS**

**DATE: Pick Date Jun 2017**

## 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) Explain the **THREE** main sources of water and in each case give **ONE** typical example **12 Marks**
- (b) Define the following terms as used in water
- (i) Pure water
  - (ii) Clean water
  - (iii) Hard water
  - (iv) Soft water
  - (v) PH **10 Marks**
- (c) List and explain any four water borne diseases **8 Marks**

## Question TWO

- (a) List and explain the **FOUR** important factors to be considered when choosing a ground water site **8 Marks**

- (b) With the aid of neat sketches, explain the purpose of having **THREE** different water distribution systems **12 Marks**

### Question THREE

1. (a) List **FIVE** material from which residential and light commercial pipes and pipe fittings for plumbing are made **5 Marks**
- (b) Sketch in good proportions and state the use(s) of the following pipe fittings;-
- (i) Reducing coupling/socket  $\frac{3}{4} \times \frac{1}{2}$
  - (ii) 90° Elbow
  - (iii) Plug
  - (iv) 1 x  $\frac{3}{4} \times \frac{1}{2}$  reducing T
  - (v) Cap **15 Marks**

### Question FOUR

1. (a) List and 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 **8 Marks**

### Question FIVE

- (a) Explain the **THREE** main reasons of storing water **9 Marks**
- (b) With the aid of neat sketch, explain the **TWO** methods of determining the level/amount of water in storage tanks **11 Marks**

