



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Engineering and Technology
DEPARTMENT OF MEDICAL ENGINEERING

DIPLOMA IN MEDICAL ENGINEERING
(DME Y2 S2)

EHL 2106
REFREGERATION AND AIR-CONDITIONIG EQUIPMENT II

SPECIAL/SUPPLEMENTARY EXAMINATIONS

SERIES: JULY, 2014

TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:

- Question **ONE** is **COMPULSORY** questions
 - Attempt any other **TWO** questions
 - You are required to carry a scientific calculator for this paper
- This paper consists of **2 PRINTED** pages

QUESTION ONE (COMPULSORY)

(a) Sketch and name the chemical structures for the following halocarbons refrigerants:

i) R 123

ii) R 134a

iii) R 22

(6 mark)

(b) Sketch a room air conditioner showing all **FOUR** types of air circulation. (10 marks)

Tabulate to indicate the **FOUR** differences between refrigeration and air conditioning units. (8 marks)

List any **SIX** types of filters in an air conditioning unit. (6 marks)

QUESTION TWO

Write a technical procedure for refrigerant recharging exercise. (20 marks)

QUESTION THREE

(a) Describe any **FIVE** types of air conditioning units. (10 marks)

(b) Describe the **FIVE** adverse effects to the universe due to severe depletion of the Ozone layer. (10 marks)

QUESTION FOUR

Figure 1 represents a split unit air conditioning unit Hospital.

(a) Name the **EIGHT** market features. (8 marks)

(b) Describe any **SIX** of the above (4a) features. (12 marks)

QUESTION FIVE

(a) Describe the functions of the following **THREE** components in an air conditioning unit.

(i) Humidistat

(ii) Thermostat

(iii) Pressure stat

(6 marks)

(b) Describe uses of any **FOUR** air conditioning equipment. (8 marks)

(c) Sketch and label plenum elements in a air conditioning system. (6 marks)

