



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MEDICAL ENGINEERING

: EHL 2207 MEDICAL GASES SYSTEMS

END OF SEMESTER EXAMINATION

SERIES: AUGUST 2019

TIME: 2 HOURS

DATE: 12 Aug 2019

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 any **THREE** questions.

Do not write on the question paper.

QUESTION ONE

- (a) Differentiate between:
- i. Ready Use Store and Main Cylinders Store
 - ii. Emergency Manifold System and Manifold System
- (8Marks)
- (b) Describe any **THREE** requirements/recommendations for:
- i. Main Cylinders Store
 - ii. Liquid Oxygen(VIE) Plant Compound
- (12Marks)

QUESTION TWO

- (a) With the aid of a sketch describe the operational principle of an oxygen concentrator machine.
(12 Marks)
- (b) i). State the FOUR Personnel involved in **permit to work procedures**
- ii). List any TWO roles of each of the FOUR personnel involve in **permit to work procedures**.
(8Marks)

QUESTION THREE

- (a) Describe any FOUR alarm display status of a cylinders manifold system
(8Marks)
- (b) List any FOUR clinical effects/uses with its respective medical gas.
(8Marks)
- (c). List any FOUR elements/components found on an Air Receiver of a medical compressed air plant.
(4Marks)

QUESTION FOUR

- (a) Differentiate between Compressed Air and Medical Compressed Air
(2Marks)
- (b) Sequentially describe the SIX parts of a “Permit To Work Document”
(12Marks)
- (c) A vacuum receiver has free air capacity of 4000litres, if it subjected to a vacuum of 500mmHg what would be its resultant volumetric throughput capacity to the nearest tenth unit?
(6Marks)

QUESTION FIVE

- With the aid of a sketch describe the operation of a medical central vacuum plant.
(20Marks)