



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MEDICAL ENGINEERING (DME 315 Y2 S2)

ECL 2203: OPERATING THEATRE EQUIPMENT

END OF SEMESTER EXAMINATION

SERIES: APRIL 2016

TIME: 2 HOURS

DATE: Pick Date Select Month Pick Year

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FOUR** questions. Attempt any **THREE** questions.

Do not write on the question paper.

QUESTION ONE

Write a standard laboratory practical report you carried out during the course of your study on Operating Theatre Equipment on anti-static operating theatre floor.

(20 Marks)

QUESTION TWO

(a) Describe FIVE structural requirements of an Operating Theatre under the following:

- (i) Windows
- (ii) Electrical fittings
- (iii) Floor

- (iv) Furniture
- (v) Walls

(10Marks)

- (b) List TEN recommendations/ requirements of an operating theatre lamp
(10Marks)

QUESTION THREE

- (a) Describe any FIVE factors that can influence the coagulation K layer thickness
(10Marks)

- (b) Suggest FIVE possible causes for surgical burns.

(10Marks)

QUESTION FOUR

- (a) With the aid of a block diagram describe the operational principle of a solid state transistorized R/F generator
(10Marks)

- (b) During a certain surgery operation a current of 3.4 amperes passed through a patient tissue of 240 ohms for 0.85 seconds at an active electrode contact volume of 0.082 cm^3

- i. Calculate the resultant rise in temperature Celsius
- ii. Calculate the electrons flow count during this procedure

(10Marks)

QUESTION FIVE

- (a) Describe with the aid of sketch the operation of an automatic change over system of an operating theatre Lamp
(12Marks)

- (b) Describe any FOUR types of neutral plate materials

(8Marks)