



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN PHARMACEUTICAL SCIENCES WITH INFORMATION TECHNOLOGY

MAIN CAMPUS

PMT 412: INTRODUCTION TO BIOMEDICAL INSTRUMENTATION

Date: 8th March, 2018

Time: 8.30 - 11.30am

INSTRUCTIONS:

- Answer ALL Questions in Section A
- Answer Question ONE and any other in Section B.



SECTION A (40 MARKS): Attempt ALL the questions.

1. Briefly describe factors to be considered during placement of a biological safety cabinet in the laboratory. (5 marks)
2. State operational and safety procedures for a compound light microscope. (5 marks)
3. Describe hydrodynamic focusing phenomenon in a flow cytometer. (5 marks)
4. Explain why infectious material should not be handled in Horizontal Laminar Flow 'Clean Bench'. (5 marks)
5. Troubleshoot for steam leaks in autoclave/ sterilizer. (6 marks)
6. What precaution should be taken when handling equipment that has pressurized cylinder? (4 marks)
7. Explain the levels of maintenance of medical equipment. (6 marks)
8. State the type of rotors commonly found in a centrifuge. (4 marks)

SECTION B (30 MARKS): Attempt TWO questions from this section. Question 1 and ANY OTHER question.

1. Describe the parts that make up a gel electrophoresis equipment. (15 marks)
2. Discuss the subsystems available in the ELISA microplate washer. (15 marks)
3. Describe performance testing of a biological safety cabinet in the field. (15 marks)