



MASENO UNIVERSITY

UNIVERSITY EXAMINATIONS 2016/2017

FOURTH YEAR FIRST SEMESTER EXAMINATION FOR DEGREE OF BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE & TECHNOLOGY WITH INFORMATION TECHNOLOGY

MAIN CAMPUS

PPS 412: INTRODUCTION TO PHARMACEUTICAL INSTRUMENTATION

Date: 7th December, 2016

Time: 8.30 - 11.30am

INSTRUCTIONS:

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

SECTION A (40 marks): Attempt ALL questions.

1. State regulation requirements for construction of pharmaceutical equipment. (6 marks)
2. Name two common detectors found in a flow cytometer and state difference in their application. (6 marks)
3. State possible cause of all peaks doubling in chromatogram. (3 marks)
4. Give reasons for usage of a biological safety cabinet. (3 marks)
5. What is the use of a Bieman concentrator device in a Gas Chromatography- Mass spectrometry (GC-MS) instrument? (5 marks)
6. Explain the challenges of cleaning perchloric acid fume hood. (5marks)
7. Briefly explain hydrodynamic focusing. (6 marks)
8. What is importance of degassing in High Performance Liquid Chromatography (HPLC)? State 3 ways of achieving the process. (6 marks)

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

1. Describe different mass analyzers found in a GC-MS instrument. (15 marks)
2. Explain how interferometer in Fourier Transform Infrared spectrometer operates. (15 marks)
3. Describe detectors commonly found in HPLC apparatus. (15 marks)