



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2016/2017

**SECOND YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN MEDICAL
BIOTECHNOLOGY, MEDICAL LABORATORY SCIENCE AND
PHARMACEUTICAL SCIENCE WITH INFORMATION
TECHNOLOGY**

MAIN CAMPUS

PML 211: MEDICAL CELL BIOLOGY AND CYTOLOGY

Date: 2nd December, 2016

Time: 8.30 - 11.30 am

INSTRUCTIONS:

- Answer ALL questions in SECTION A and any TWO questions in SECTION B.



PML 211: MEDICAL CELL BIOLOGY AND CYTOLOGY

Date: _____

Time: 2 HOURS

Attempt **ALL** questions in **section A** and any two questions in **section B**. Section A carries 40 marks while section B carries 30 marks.

SECTION A (40 marks)

1. Name five major cellular organelles and indicate their functions (5 marks).
2. Define extra-cellular matrix and mention its four components (5 marks).
3. Briefly describe the process of immunohistochemistry as applied in cytology (5 marks).
4. Briefly describe the process of cellular signaling (5 marks).
5. Explain the contribution of biochemistry to modern cell biology? (5 marks).
6. Describe the structure and function of a nucleus (5 marks)
7. Briefly describe the process of gene transcription (5 marks)
8. Describe the process of cell division in a tumor cell (5 marks)

SECTION B (30 marks)

10. Discuss the contributions of advanced stem cell technology in medical cell biology (15 marks).
11. Describe the process of equilibrium centrifugation in purification of subcellular components (15 marks).
12. Describe the process of meiosis in an animal cell (15 marks).