



MASENO UNIVERSITY
UNIVERSITY EXAMINATIONS 2013/2014

SECOND YEAR FIRST SEMESTER EXAMINATIONS FOR THE
DEGREE OF BACHELOR OF SCIENCE IN MEDICAL
LABORATORY SCIENCES WITH INFORMATION TECHNOLOGY
(CITY CAMPUS - EVENING)

PMT 212: HUMAN PHYSIOLOGY

Date: 1st April, 2014

Time: 5.30 – 7.30 p.m.

INSTRUCTIONS:

Answer ALL questions in Section A and ANY TWO from Section B.

PMT 212: HUMAN PHYSIOLOGY

TIME: 2 Hours

INSTRUCTIONS: Answer ALL questions in section A and any TWO from section B.

SECTION A-40 Marks

1. a). Briefly describe the structural classification of neurons (6 marks).
b). state the locations and functions of the different types of neuroglial cells (6 marks).
2. List the hormones produced by the adrenal glands and the zones that secretes these hormones (4 Marks).
3. Explain why a blurred image is produced in each of these conditions and how they can be corrected
a). Myopia (2 marks)
b). Astigmatism (2 marks)
4. Explain the trichromatic theory of color vision (3 marks).
5. Briefly describe the generation of action potential in nerve cells (5 marks).
6. Describe the causes of the following disease states and explain how urine production is affected in each case.
a). Diabetes mellitus (3 marks)
b). Diabetes insipidus (2 marks).
7. a). Describe the functions of the glomerulus of the nephron (3 marks).
b). Describe the counter current exchanger mechanism of the renal system and its significance (4 marks).

SECTION B-30 Marks-Answer any TWO questions.

8. Explain the various steps of skeletal muscle contraction (15 Marks).
9. a). Describe the mechanism of action through which steroid and polypeptide hormones exert their effects on their target cells (6 Marks).
b). Describe the functions of hormones secreted by the pituitary gland (9 Marks).
10. a). Describe the structure of vestibular apparatus and its function in providing sense of equilibrium (10 Marks).
b). Explain how visual accommodation is achieved (5 Marks).
11. a). Discuss the digestion of carbohydrates, fats and proteins (10 Marks).
b). Give an account of liver functions (5 Marks).