

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC2102

FACULTY OF APPLIED SCIENCES

BACHELOR OF SCIENCE HONOURS DEGREE EXAMINATIONS

DEPARTMENT OF SPORTS SCIENCE AND COACHING

THEORY: SSC2102: GENERAL PHYSIOLOGY

DECEMBER 2004

3 HOURS (100 MARKS)

INSTRUCTIONS

Answer any four questions only. Each question carries 25 marks. Where a question contains subdivisions, the mark value for each subdivision is given in brackets. Illustrate your answer where appropriate with large clearly labeled diagrams.

1. Describe sequentially the steps that lead to muscular contraction in response to a stimulus. (25 marks)
2. a) Outline the events that occur in the thorax leading to the inhalation and exhalation of gases. (13 marks)
b) Explain how oxygen and carbon dioxide are transported to the tissues and from the tissues respectively. (12 marks)
3. a) Describe how the heart is able to act as an efficient blood pump. (15 marks)
b) Write an essay on the various components of the blood and their function. (10 marks)
4. Write an essay on the digestive and absorptive functions of the alimentary canal. (25 marks)
5. Describe the mechanism of removal of wastes from the body by the kidneys. (25 marks)
6. a) Explain how an action potential is generated on a nerve. (8 marks)
b) Describe the visual cycle. (9 marks)
c) How is sound perceived by the human hearing system. (8 marks)

END OF EXAMINATION QUESTION PAPER