Technical University of Mombasa

Faculty of Applied and Health Sciences

DEPARTMENT OF PURE AND APPLIED SCIENCES

UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF TECHNOLOGY IN INDUSTRIAL MICROBIOLOGY AND BIOTECHNOLOGY

BTMBT 10M

ABT 4403: THERAPEUTIC PROTEINS

SEMESTER EXAMINATION

DECEMBER 2013 SERIES 2 HOURS

Instructions to candidates:

This paper consist of FIVE questions
Answer question ONE (compulsory) and any other TWO questions

QUESTION ONE

a) Outline the therapeutic use of the following enzymes

(i) DNase I **(3 marks)**

(ii) Alginate lyase **(3 marks)**

b) Explain the following observations

(i) Primary Addison's diseases and cushing syndrome patients have hyper pirgmentation even in areas not exposed to sunlight **(2 marks)**

(ii) Hyper pigmentation is common in pregnant women **(2 marks)**

(iii) Chronic systemic treatment with conrticosteroirds must be performed under careful and controlled conditions **(2 marks)**

c) Explain the cause of improper enzyme functioning and unforvaourable GIT environment in some people **(6 marks)**

d) Differentiate between diabetes mellitus and diabetes inspidus **(6 marks)**

e) Outline the limitation associated with the use of protein based drugs in treatment of health related Conditions **(5 marks)**

QUESTION TWO

a) Describe the cellular events due to the action of interferons upon viral attack of the cell **(16 marks)**

b) Cells that have not been attacked by pathogens or antigens are not able to produce interferon. Explain. **(4 marks)**

QUESTION THREE

a) Explain the ways in which glucagon helps to maintain proper concentration of glucose levels in the blood **(8 marks)**

b) Discuss the therapeutic effects of glucagon **(12 marks)**

QUESTION FOUR

a) Outline the biological activities of interferons which are indirectly associated with antiviral properties of the host **(10 marks)**

b) Describe the ways in which hormones exert their effects in the body system **(10 marks)**

QUESTION FIVE

a) Using specific examples, outline the classification of functional categories of cytokines **(8 marks)**

b) Describe the mechanism of action of glucagon **(12 marks)**