

CHUKA UNIVERSITY
UNIVERSITY EXAMINATIONS, 2019/2020
FIRST SEMESTER EXAMINATION
BIOC 416: MEDICAL BIOCHEMISTRY I

INSTRUCTIONS: *Answer question one and any other two questions*

Questions

Question 1 (Compulsory) (30 marks)

- a) Giving specific examples, briefly discuss viral oncogenesis. (5 marks)
- b) (i) What is neurotoxicity? (1 mark)
(ii) Briefly describe four neurotoxic injuries affecting the neuronal structure or function affected. (4 marks)
- c) What is Acute Myeloid Leukemia (AML)? State predisposing factors to acquisition of AML. (5 marks)
- d) (i) Explain the biochemical sequence of events leading to profound hypoglycaemia in an apparently healthy subject 36 hours after an alcoholic binge. (ii). How does the alcohol deterrent, antabuse (disulfiram), work? (5 marks)
- e) State three characteristics of ideal tumor markers. State their roles in the management of cancers. (6 marks)
- f) (i) What is Hodgkin's lymphoma (HL)? (1 mark)
(ii) Briefly describe the causes, symptoms and diagnosis of Hodgkin's lymphoma. (3 marks)

Question 2 (20 marks)

- a) Discuss 5 biomarkers of ethanol abuse. (10 marks)
- b) There is a 3–4 fold variability in the rate of alcohol elimination by humans because of various genetic and environmental. Describe 5 factors modifying alcohol elimination rate. (10 marks)

Question 3 (20 marks)

- a) Explain how the extrinsic and intrinsic coagulation pathways lead to the common pathway, and the coagulation factors involved in each (10 marks)

- b) Highlight how Proto-oncogenes, Oncogenes and Tumor suppressor genes modulate tumor formations (10 marks)

Question 4 (20 marks)

- a) (i) Differentiate between leukemia and lymphoma. (2 marks)
(ii) Discuss the four main types of leukemia. (8 marks)
- b) Discuss the clinical significance of tumor markers (10 marks)