



ELIZADE UNIVERSITY

FACULTY OF BASIC AND APPLIED SCIENCES

DEPARTMENT: PHYSICAL AND CHEMICAL SCIENCES

PROGRAMME: BIOCHEMISTRY EXAM TITLE: DEGREE EXAMINATION

COURSE CODE & TITLE: BCH 403 – CLINICAL AND FORENSIC BIOCHEMISTRY

TIME ALLOWED: 2 hrs SEMESTER/SESSION: FIRST / 2020/2021

INSTRUCTIONS: Write your matriculation number on the cover page of the exam booklet.

Answer ANY THREE (3) OF THE FIVE (5) QUESTIONS

HOD's SIGNATURE

- 1a) Give one clinical significant of the following enzymes.
(i) Acid phosphatase (ACP) (ii) Cholinesterases 6 marks
- 1b) Give the conditions in which the rise in the following enzymes is not pathological.
(i) Alkaline phosphatase (ALP) (ii) γ -Glutamyltransferase (GGT) 6 marks
- 1c) List the enzymes that can be used to confirm an elevated ALP that is due to biliary obstruction in the liver. Give the reactions catalysed by these enzymes. 8 marks
- 2a) Explain the pathological condition associated with Glucosuria and ketourea 6 marks
- 2b) Explain the principle of size exclusion chromatography 4 marks
- 2c) With the aid of chart diagrams only; describe the extraction and fractionation of antibiotics (fungal metabolites) with increasing solvent polarity. 10 marks
- 3a) Define the following terms
i) Forensics 3 marks
ii) Biological evidence, give (2) examples 4 marks
iii) PPEs (personal protective equipments), give four (2) examples 4 marks
- 3b) Mention four (4) ways of preventing contamination in a molecular laboratory 4 marks
- 3c) What are the environmental factors that can degrade DNA in biological evidences gotten by a forensic scientist 5 marks
- 4a) What are the various fate a crime can take under criminal law? 4 marks
- 4b) What are inhibitors and how can they be controlled? 4 marks
- 4c) How does the use of Controls (positive/ negative) assist forensic scientist in following ethics 4 marks
- 4d) Mention and explain three (3) applications of forensics in law 8 marks
- 5a) Mention the applications of DNA profiling in forensics 4 marks
- 5b) Mention two (2) strength and limitations of DNA profiling techniques 4 marks
- 5c) Explain in details two (2) of the following techniques used in DNA profiling
i. PCR 6 marks
ii. Restriction fragment polymorphism 6 marks
iii. Gel electrophoresis. 6 marks