

CHUKA UNIVERSITY
UNIVERSITY EXAMINATIONS 2019/2020
FIRST SEMESTER EXAMINATION
BMET 101: INTRODUCTION TO BIOMEDICAL SCIENCES

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

Questions

Question 1 (Compulsory) (30 marks)

- a) Define and briefly describe the scope of Biomedicine. (5 Marks)
- b) Briefly discuss the various types of tissues present in human body. (6 Marks)
- c) Write short notes on the particulate theory of matter. (5 Marks)
- d) Distinguish and give examples of mixtures and compounds. (4 Marks)
- e) Define the following terms: (4 Marks)
 - (i) Sensitivity
 - (ii) Specificity
- f) With examples, distinguish between the following types of biomedical measurements: (6 Marks)
 - (a) In vivo
 - (b) Ex vivo
 - (c) In vitro

Question 2 (20 marks)

- a) Briefly write short notes on the following procedures: (9 Marks)
 - (i) Calibration
 - (ii) Validation
 - (iii) Verification
- b) Explain the following observation: (3 marks)
 - (i) Gases have no fixed volume and shape.

(ii) Bones heal faster than cartilage. (2 marks)

c) Compare and contrast between skeletal, cardiac and smooth muscle. (6 Marks)

Question 3 (20 marks)

a) Giving examples differentiate between homogeneous and heterogeneous solutions. (6 Marks)

b) Explain distinguishing characteristics between a prokaryotic and eukaryotic cell. (6 marks)

c) Discuss the various duties carried out by a Biomedical Scientist. (8 marks)

Question 4 (20 marks)

a) Describe five areas of specialization for a Biomedical Scientist. (10 marks)

b) List ten rules a Biomedical Scientist must follow in a biomedical laboratory. (10 marks)