



**KENYATTA UNIVERSITY**  
**UNIVERSITY EXAMINATIONS 2019/2020**  
**SUPPLEMENTARY/SPECIAL EXAMINATION FOR THE DEGREE OF**  
**BACHELOR OF SCIENCE (ANIMAL HEALTH AND PRODUCTION)**  
**KAS 202: BIOCHEMISTRY II**

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**DATE: TUESDAY 12<sup>TH</sup> JANUARY 2021**

**TIME: 8.00 A.M. – 10.00 A.M.**

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**INSTRUCTIONS**

Answer **ALL** questions in Section A and any **TWO** question in Section B. Within a Section ALL questions carry equal marks. Illustrate your answers with diagrams and give examples where appropriate.

**SECTION A: Answer ALL questions (5 marks each: 40 marks)**

1. Compare and contrast the structure of glucose and fructose.
2. State five major functions of lipids respectively in each organ for five organs in an animal body where they occur.
3. State five features that compare and contrast glyceraldehydes 3 phosphate and dihydroxyacetone phosphate.
4. Summarize glycolysis process in one overall equation.
5. Describe briefly the various processes involved in protein catabolism in living organisms.
6. State the major processes involved in catabolism of fats and oils.
7. Compare and contrast RNA and DNA based on structure and functional characteristics.
8. Explain the role of Volatile Fatty Acids (VFA) and state their mechanisms of production in ruminants.

**SECTION B: Answer any two questions (15 marks each)**

9. Explain the steps involved in protein synthesis.
10. Explain the fundamental link between nucleic acids, proteins and cellular functions.
11. a) Describe briefly the Cory cycle and its role. (6 marks)  
b) Explain the various sources of substrates used in gluconeogenesis in vertebrates. (9 marks)