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**NATIONAL OPEN UNIVERSITY OF NIGERIA  
FACULTY OF AGRICULTURAL SCIENCES  
DEPARTMENT OF ANIMAL SCIENCE AND FISHERIES  
SEPTEMBER 2020\_1**

**COURSE CODE:** ANP 308

**COURSE TITLE:** Metabolism of Carbohydrates, Lipids, Proteins and Nucleic Acids

**CREDIT UNIT:** 2 CU

**TOTAL SCORE:** 70 MARKS

**TIME ALLOWED:** 2 Hours

**INSTRUCTIONS:** ANSWER QUESTION 1 (25 MARKS) AND ANY OTHER THREE (15 MARKS EACH)

- Q1a Define carbohydrates and glycogenesis
- b Give an overview of the major pathways of carbohydrate metabolism, emphasizing the fate of glucose but also indicating the sites of entry of galactose and fructose into the pathways
- c Describe the Krebs's cycle. **25 marks**
- Q2a Define simple proteins.
- b State and explain the examples of simple proteins. **15 marks**
- Q3 Write short note on the following:
- (i) Transamination
- (ii) Oxidative deamination **15marks**
- Q4a Give the functions of lipids.
- b Enumerate the factors affecting absorption of lipids. **15marks**
- Q5 Explain the stepwise reaction involved in the production of ketone bodies using word equations only. **15 marks**
- Q6 Write short notes on the following:
- (i) Glycogen
- (ii) Lactose
- (iii) Sucrose **15marks**