FACULTY: Basic and Applied Sciences
DEPARTMENT: Physical and Chemical Sciences
SECOND SEMESTER EXAMINATIONS
2018/2019 ACADEMIC SESSION

HOD's SIGNATURE

COURSE CODE: 208

COURSE TITLE: Metabolism of Amino Acids and Nucleic Acids (Nitrogen Metabolism)

DURATION: 2hours

TOTAL MARKS: 60

INSTRUCTIONS: ***Attempt any (3) out of the five (5) questions***

1a)	What do you understand by nitrogen fixation?	2marks
1b)	Explain how ammonium can be fixed into amino acids.	4 marks
1c)	With the aid of a chart diagram explain the Nitrogen cycle.	14 marks
2a)	List the reactions in purine biosynthesis that do not involve the use of ATP.	6 marks
2b)	Explain the synthesis of CTP from UMP.	9 marks
2c)	State the differences between purine and pyrimidine biosynthesis.	5 marks
3a)	Using chemical equations, explain oxidative deamination.	4 marks
3b)	List the neurotransmitters derived from tyrosine and state their functions.	16marks
4a)	Define transamination reaction and give two examples.	7marks
4b)	Using biochemical reaction pathways, briefly describe the synthesis of serine.	13 marks
5a)	List the amino acids that can be synthesized from the following metabolic precursors α-Ketoglutarate, 3-Phosphoglycerate and Oxaloacetate.	6 marks
5b)	What do you understand by the following terms? i) Glucogenic amino acids iii) Ketogenic amino acids.	7 marks
5c)	Explain the mitochondria reactions involve the formation of urea.	7 marks