جامعة الحكمة، إلورن–نيجيريا

Al-Hikmah University, Ilorin – Nigeria

Adewole Housing Estate, Adeta Road, PMB 1601, Ilorin, Kwara State

FACULTY OF NATURAL AND APPLIED SCIENCES
DEPARTMENT OF BIOLOGICAL SCIENCES
B.Sc. BIOCHEMISTRY PROGRAMME
2019/2020 ACADEMIC SESSION
B. Sc. BIOCHEMISTRY PROGRAMME
COURSE OUTLINE FOR

COURSE CODE: BCH 304
COURSE TITLE: PROTEIN AND AMINO ACIDS METABOLISM
CREDIT UNIT: 3
26 LECTURE PERIODS: Mondays, 8 am – 10 am; Tuesdays 2 – 3 pm
STUDENTS SHOULD NOTE THAT AFTER EVERY TOPIC THERE SHALL BE A SHORT CONTINUOUS ASSESSMENT TEST ON GOOGLE CLASSROOM PLATFORM

LECTURE PERIOD	DATE	TOPIC	COURSE LECTURER
1	24th February, 2020	Amino acids • Structure • Physical properties • Classification	Mr. Balogun, A.
2	25th February, 2020	Peptide • Peptide Bond • Representation of Peptide chain • Naming of Peptide chain	Mr. Balogun, A.
3	2nd March, 2020	Peptide • Determination of Amino acids Sequence of a Polypeptide • Stereochemistry of peptide chains	Mr. Balogun, A.
4	3rd March, 2020	Proteins • Biological Roles • Chemical bonds involved in Protein Structure	Mr. Balogun, A.
5	9th March, 2020	Proteins • Chemical bonds involved in Protein Structure • Protein Configuration	Mr. Balogun, A.
6	10th March, 2020	Proteins • Protein Configuration • Protein Classification	Mr. Balogun, A.
7	16th March, 2020	Oxidative Degradation of amino acids • Transamination • Oxidative Deamination	Mr. Balogun, A.

		• Non-oxidative Deamination	
8	17th March, 2020	Oxidative Degradation of amino acids • Non-oxidative Deamination • Transdeamination	Mr. Balogun, A.
9	23rd March, 2020	Amino group Transportation • Alanine-glucose cycle (Cori Cycle) • Transportation of ammonia by Glutamine	Mr. Balogun, A.
10	24th March, 2020	Metabolism of one-carbon units • Tetrahydrofolic acid Plays Important Roles Metabolism of one-carbon units • Formation of one carbon unit	Mr. Balogun, A.
11	30th March, 2020	Metabolism of one-carbon units • One carbon unit exchange • Significance of one carbon unit Degradation of Carbon Skeleton of Amino Acids • Pathways of Ketogenic amino acids	Mr. Balogun, A.
12	31st March, 2020	Degradation of Carbon Skeleton of Amino Acids • Pathways of Ketogenic amino acids	Mr. Balogun, A.
13	6th April, 2020	Degradation of Carbon Skeleton of Amino Acids • Pathways of Glucogenic amino acids	Mr. Balogun, A.
14	7th April, 2020	Degradation of Carbon Skeleton of Amino Acids • Pathways of Glucogenic amino acids	Mr. Balogun, A.
15	13th April, 2020	Urea cycle • Urea Is Produced from Ammonia in Five Enzymatic Steps • Linked Between Citric Acid and Urea Cycles • Regulation of the Urea Cycle	Dr. (Mrs.) Abdulazeez, A.T.
16	14th April, 2020	Urea cycle • Urea Is Produced from Ammonia in Five Enzymatic Steps • Linked Between Citric Acid and Urea Cycles • Regulation of the Urea Cycle	Dr. (Mrs.) Abdulazeez, A..T.
17	20th April, 2020	Biosynthesis of amino acids and derivatives • α-Ketoglutarate Gives Rise to Glutamate, Glutamine, Proline, and Arginine • Serine, Glycine, and Cysteine Are Derived from 3-Phosphoglycerate • Three Nonessential and Six Essential Amino Acids Are Synthesized from Oxaloacetate and Pyruvate	Dr. (Mrs.) Abdulazeez, A..T.
18	21st April, 2020	Biosynthesis of amino acids and derivatives • Chorismate Is a Key Intermediate in the Synthesis of Tryptophan, Phenylalanine and Tyrosine	Dr. (Mrs.) Abdulazeez, A..T.

		• Histidine Biosynthesis Uses Precursors of Purine Biosynthesis •	
19	27th April, 2020	Inborn errors of amino acid metabolism • Phenylketonuria • Tyrosinemia	Dr. (Mrs.) Abdulazeez, A..T.
20	28th April, 2020	Inborn errors of amino acid metabolism • Alkaptonuria • Maple Syrup Urine Disease	Dr. (Mrs.) Abdulazeez, A..T.
21	4th May, 2020	Protein catabolism • Lysosomes Degrade Many Proteins • Ubiquitin Marks Proteins for Degradation	Dr. (Mrs.) Abdulazeez, A..T.
22	5th May, 2020	Protein catabolism • The Proteasome Unfolds and Hydrolyzes Ubiquitinated Polypeptides	Dr. (Mrs.) Abdulazeez, A..T.
23	11th May, 2020	Molecules Derived from Amino Acids • Glycine Is a Precursor of Porphyrins • Amino Acids Are Precursors of Creatine and Glutathione	Dr. (Mrs.) Abdulazeez, A..T.
24	12th May, 2020	Molecules Derived from Amino Acids • Aromatic Amino Acids Are Precursors of Many Plant Substances • Arginine Is the Precursor for Biological Synthesis of Nitric Oxide	Dr. (Mrs.) Abdulazeez, A..T.
25	18th May, 2020	Final C.A. Test & Revision Week	
26	19th May, 2020	Revision Week	