Reg. No.: .....

Name: .....

University of Kerala

U8694

Second Semester FYUGP Degree Examination, April 2025

Discipline Specific Core Course

BIOCHEMISTRY

UK2DSCBCH105 - Molecules of life

Academic Level: 100-199

Time: 1 Hour 30 Minutes(90 Mins.) **Max. Marks: 42**

Part A. 6 Marks.Time:6 Minutes.(Cognitive Level:Remember(RE)/Understand(UN)) Objective Type. 1 Mark Each.Answer all questions

Qn No.	Question	CL	CO
1	Define IU of enzyme activity.	RE	3
2	Identify the glycosidic linkage in lactose.	RE	2
3	State the role of rRNA in protein synthesis.	UN	4
4	Cite two examples for the prosthetic group.	UN	3
5	Identify the mechanism of existence of glucose as alpha and beta anomers.	UN	1
6	Cite an example of an acidic amino acid.	UN	1

Part B.8 Marks.Time:24 Minutes.(Cognitive Level:Understand(UN)/Apply(AP))Short Answer. 2 marks each.Answer all questions

Qn No.	Question	CL	CO
7	Explain why sucrose is a non-reducing sugar.	UN	2
8	Summarize the therapeutic application of lipase.	UN	3
9	Illustrate the role of ethanol in methanol poisoning.	AP	3
10	Prepare a chart showing the major differences between DNA and RNA.	AP	4

Part C. 28 Marks.Time:60 Minutes (Cognitive Level:Apply(AP)/Analyse(AN)/Evaluate(EV)/Create(CR)) Long Answer.7 marks each.Answer all 4 Questions choosing among options * within each question

Qn No.	Question	CL	CO
11	A) Classify amino acids into essential and non-essential categories. Apply this classification to explain why a balanced diet is important. OR B) Compare the structural features of polysaccharides.	AP	1, 2

Qn No.	Question	CL	CO
12	A) Explain Watson and Crick's model of DNA with a suitable diagram. OR B) Discuss the applications of enzymes with suitable examples.	AN	4, 3
13	A) Evaluate the structural characteristics of glucose and fructose using open-chain and Haworth projections, and explain the concepts of D & L isomerism, epimers, anomers, and mutarotation. OR B) Evaluate the importance of tyrosine, tryptophan, histidine, proline, and cysteine in protein structure and biochemical functions.	EV	2, 2
14	A) Create a table showing the functions of ornithine, S-adenosyl methionine, and homocysteine in the human body. OR B) Create a table that lists the functions of mRNA, tRNA, and rRNA.	CR	2, 1