U7845

Reg. No.: .....

Name:.....

University of Kerala
First Semester Degree Examination, November 2024
Four Year Under Graduate Programme
Discipline Specific Core Course
Biochemistry
UK1DSCBCH101- FOUNDATIONS OF BIOCHEMISTRY
Academic Level: 100 - 199

Time:1½ Hours **Max.Marks:42**

Part A.
Answer All Questions, Objective Type. 1 Mark Each.
(Cognitive Level: Remember/Understand)
6 Marks. Time: 6 Minutes

Qn No.	Question	Cognitive level	Course outcome (CO)
1	Which cell organelle is responsible for translation.	Remember	CO1
2	Name a virus with DNA as the genetic material.	Remember	CO3
3	Define a chemical bond.	Remember	CO2
4	Which type of bond is present between complementary bases on DNA?	Remember	CO3
5	What do you mean by a standard solution?	Understand	CO4
6	Define pH.	Remember	CO2

Part B.
Answer All Questions, Short Answer. 2 Marks Each.
(Cognitive Level: Understand/Apply)
8 Marks. Time: 24 Minutes

Qn No.	Question	Cognitive level	Course outcome (CO)
7	Explain the functions of a light microscope.	Understand	CO4
8	Give a difference between an animal cell and a plant cell.	Understand	CO1
9	What is the pOH of a solution with an H^+ concentration of 0.001M?	Apply	CO2
10	State central dogma of genetics.	Understand	CO3

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

Qn No.	Question	Cognitive level	Course outcome
11	A) Describe the functions of subcellular organelles present in eukaryotes. OR B) Compare and contrast the structural aspects of prokaryotic and eukaryotic cell.	Understand Understand	CO-1 CO-1
12	A) Define an acid and a base according to the Bronsted-Lowry theory. Calculate the pH and pOH of a solution with a hydrogen ion concentration of 4.3×10^{-5} M. State whether the solution is acidic, basic or neutral. OR B) Detail the properties of ester, hydrogen, ionic and van der Waals bonds and give examples of biomolecules with these bonds.	Apply Apply	CO-2 CO-2
13	A) Give a brief description on the different types of glassware used in biochemistry student's laboratory. OR B) Describe the types and uses of balances used in the laboratory.	Understand Understand	CO-4 CO-4
14	A) Write a note on the properties of DNA. Describe how Meselson-Stahl experiment was carried out to demonstrate the semi conservative nature of replication. OR B) Describe the transformation of R-strain pneumococcus to S-strain observed in Griffith's Experiment. How did Hershey-Chase experiment demonstrate DNA's role in genetic inheritance?	Understand Understand	CO-3 CO-3