

B.Sc., CARDIO PULMONARY AND PERFUSION CARE TECHNOLOGY

FIRST YEAR

SUBJECT CODE & NAME – 1402 - BIOCHEMISTRY

PUZZLES - TOPIC – PROTEINS

1. Brain Teaser Puzzles –Identification of terms

Objectives

- To enhance understanding of key concepts in protein biochemistry, including classification, structure, functions, and properties, through engaging puzzle-solving.
- To develop critical thinking and analytical skills by interpreting clues
- To encourage recall and application of information in a creative, non-linear format.

Tasks and Clues

- Solve the brain teaser puzzle below, which consists of 5 interconnected riddles.
 - Use the clues to deduce the terms without guessing randomly—think about shapes, bonds, roles, and reactions. Write your answers in sequence and explain briefly how each fits the clue
1. **Clue 1:** I'm a twisted ladder of threads, tough and unyielding, found in nails and hides, resisting the chop of hungry cutters. What protein type am I, shaped like a rope?
 2. **Clue 2:** Born from a dance of folds and bends, I hold the secret shape that makes a molecule work, twisted in space but not in time. What level of organization reveals my true form?
 3. **Clue 3:** I guard the gates, binding foes from afar, teaming with white warriors to banish invaders. What protective role do I play in the body's defense?
 4. **Clue 4:** A giant's trait, I scatter light in my haze, too big to rush, yet I flow in a misty state. What property makes me cloudy under watchful eyes?
 5. **Clue 5:** I break under heat or acid's bite, losing my power to act, clumping together in defeat. What change turns me useless, yet often reversible at first?

Criteria	Description	Marks (Out of 10)
Correct Terms	Identify all 5 terms correctly (2 marks each). Partial credit for 3-4 correct.	Full: 10 Partial: 6-8
Explanation Quality	Clear explanations linking terms to clues, no direct quotes (1 mark each).	5
Creativity & Application	Creative use of concepts. Extra marks for original insights.	5