

**B.Sc., PHYSICIAN ASSISTANT**

**FIRST YEAR**

**SUBJECT CODE & NAME – 1601 - 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<br>(Out of 10)     |
|--------------------------|--------------------------------------------------------------------------------|--------------------------|
| Correct Terms            | Identify all 5 terms correctly (2 marks each). Partial credit for 3-4 correct. | Full: 10<br>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                        |