Republic of the Philippines
Laguna State Polytechnic University
Province of Laguna

Assessment Task No. 2			
Topic:	**Predicate Logic**	**Week No.**	5
Course Code:	**CSST101**	**Term:**	1st Semester
Course Title:	**Advance Knowledge Representation and Reasoning**	**Academic Year:**	2025-2026
Student Name		**Section**	
Due date		**Points**	

Part A – Conceptual Questions (Short Answer) (20 points)

1. Define **Unification** and explain why it is important in predicate logic inference.
2. Differentiate between **Forward Chaining** and **Backward Chaining**. Provide one practical application of each.
3. What is **Generalized Modus Ponens (GMP)**? Give an example in predicate logic.
4. Explain in your own words what **Resolution** is and why it is powerful in automated theorem proving.

Part B – Translation & Reasoning (30 points)

Translate the following statements into predicate logic and show the reasoning steps:

1. "All humans are mortal."
   "Socrates is a human."
   → Prove that Socrates is mortal.
2. "Every student who studies passes the exam."
   "Juan is a student and he studies."
   → Prove that Juan passes the exam.
3. "If a person is a teacher, then they advise some students."
   "Mark is a teacher."
   → Prove that Mark advises at least one student.