

**2005-PUNJAB TECHNICAL UNIVERSITY**  
**B.E / B.TECH DEGREE EXAMINATION**  
**EXPERT SYSTEM**  
**(INFORMATION TECHNOLOGY)**

TIME-3HOUR  
MARKS-100

ANSWER ALL QUESTIONS.

**PART-A [1082=20 MARKS]**

1. What do you mean by inferencing?
2. Define natural language processing.
3. Define an expert system.
4. List four major potential users of expert systems.
5. Define knowledge engineering.
6. What is the difference between documented and undocumented knowledge?
7. List major difficulties of knowledge acquisition from multiple users.
8. List major knowledge representation methods.
9. What are basic parts of a production rule?
10. Define backward chaining and contrast it with forward chaining.

**PART-B [5\*16=80 MARKS]**

- 2 (a) What kind of mistakes might ES make and why? Why is it easier to correct mistakes in ES than conventional programs?
- (b). Define and contrast shallow knowledge and deep knowledge.
- 3 (a) Give an example that illustrates the difference between propositional logic and predicate calculus.
- (b) Provide an example that shows how a semantic network can depict inheritance.
4. Describe the major tasks performed by knowledge engineers. What are the major advantages of acquiring knowledge through a knowledge engineer? Knowledge engineers are compared to system analysts, why?
5. (a) Construct a semantic network for the following situation: Mini is a robin; it lives in a nest, which is on a pine tree in Ms. Wang's backyard. Robins are birds; They can fly and they have wings. They are an endangered species and they are protected by Government regulations.
- (b) Discuss briefly the features of MYCIN.
6. (a) What are Scripts? Prepare a script about shopping in a supermarket.
- (b) Compare and contrast neural computing with conventional computing.