Unit 3

1. With neat sketch explain the architecture, characteristic features and roles of expert system.
2. Discuss about the Knowledge Acquisition process in expert systems
3. Write notes on Meta Knowledge and Heuristics in Knowledge Acquisition
4. Explain in detail about the expert system shell.
5. Write notes on expert systems MYCIN, DART and XCON and how it works? Explain.
6. Explain the basic components and applications of expert system.
7. Define Expert system. Explain the architecture of an expert system in detail with a neat diagram and an example.
8. Write the applications of expert systems.
9. Explain the need, significance and evolution of XCON expert system.
10. Design an expert system for Travel recommendation and discuss its roles.
11. Explain the architecture of an expert system in detail with a neat diagram and an example.
12. Explain the XCON expert system.
13. Illustrate the use of predicate logic to represent the knowledge with suitable example.
14. Consider the following sentences

• John likes all kinds of food

• Apples are food

• Chicken is food

• Anything anyone eats and isn’t killed by is food

• Bill eats peanuts and is still alive

• Sue eats everything bill eats

1. Translate these sentences into formulas in predicate logic
2. Prove that john likes peanuts using backward chaining
3. Convert the formulas of a part into clause form
4. Prove that john likes peanuts using resolution
5. Explain the applications of expert system.
6. What is Wumpus world? How is it related to AI?
7. What are propositional logic concepts?
8. Explain inference rules and first order logic in detail.
9. Elaborate procedure of building knowledge system.
10. How is intelligent system represented using electronic circuit domain?
11. What is ontological Engineering? Explain in detail.
12. Explain the concept of forward and backward chaining?
13. Discuss current trends to discover mental events and mental objects.
14. Explain the architecture of expert system.
15. Write a short note on

i) Justification – Based Truth Maintenance Systems

ii) Logic – Based Truth Maintenance System

1. Explain conceptual dependency with an example and build up the conceptual dependency

structures for the following sentences:

i) John pushed the cart.

ii) John took the book from Mary.

iii) While going home, I saw a frog.

1. Represent the following statements in predicate logic:

i) Marcus tried to assassinate Caesar.

ii) All Pompeian’s were Roman.

iii) All Romans were either loyal to Caesar or hated him.

iv) Everyone is loyal to someone.

v) People only try to assassinate rulers they are not loyal to.

1. Explain **t**he expert system architectures:

* Rule-based system architecture
* Associative or semantic Network Architecture
* Network architecture
* 4 Blackboard system Architectures

Unit 4

Explain planning and way of representing planning.

What is partial order planning? Relate planning to real world example and discuss.

How does planning occur in real world?In case of uncertainty discuss an example how system acts?

Explain bayes rule with suitable example.

What is belief network? How is inference obtained from belief network? What is the semantics in belief network?

How are simple and complex decisions made in an expert system?

Unit 5

Explain various AI applications.

Discuss in detail information retrieval process

What is natural language processing? Elaborate.

How does an expert system recognize speech and acts in an environment?