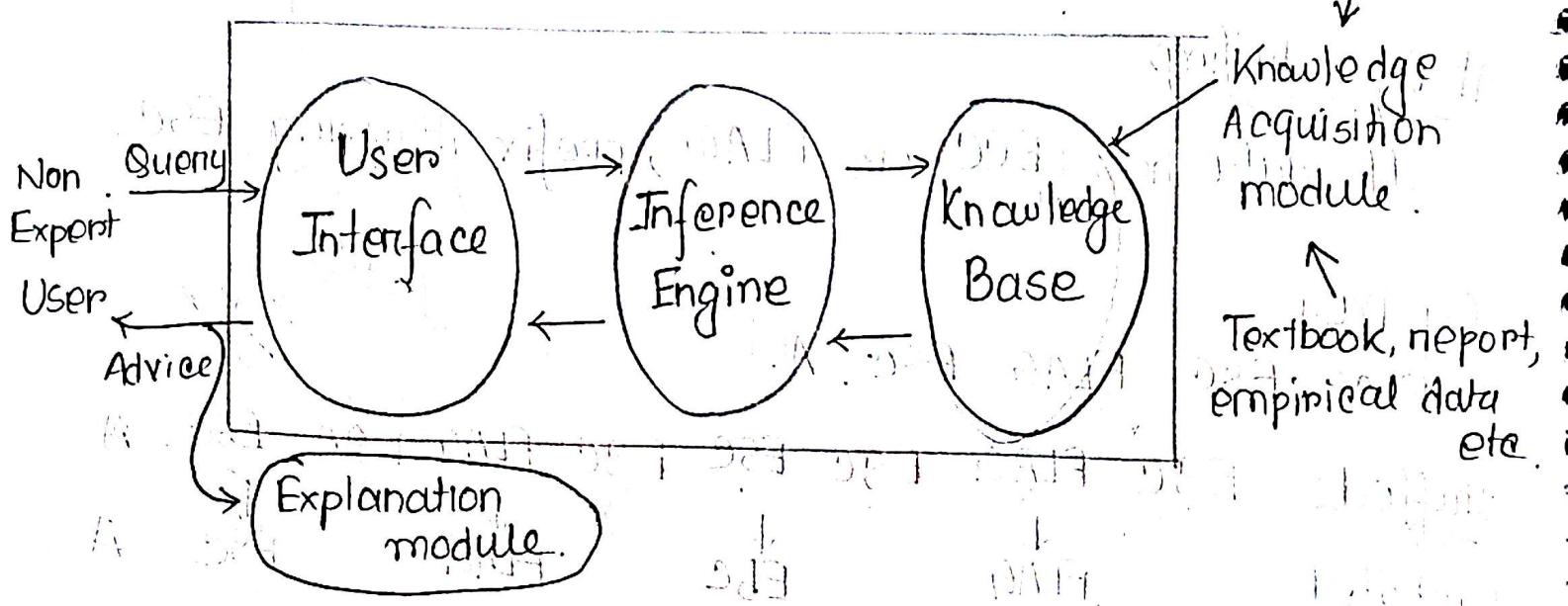


Segment-6

① What is an expert system?

Ans: Expert system is a crucial subset of artificial intelligence (AI) that simulates the decision making ability of a human expert. Eg: Financial Expert System.

② Architecture/Characteristics/Components/Expert System Shell/Representation



# What is an expert system shell?

Ans: An expert system shell in AI refers to the software / framework that provides the infrastructure for building and running expert systems.

#### Q4) Why are expert systems important?

- Ans:
- i) Preserving expertise
  - ii) Improving decision-making
  - iii) Saving time and money.

iv) Accessibility.

#### Q5) Reasoning strategies used by inference engine

Ans: There are two fundamental methods, namely:

i) Forward Chaining

ii) Backward chaining

#### Q6) Types of expert system in AI

Ans: i) Rule-based expert system.

ii) Frame-based expert system.

→ It organizes knowledge using frames (similar to 'objects' in programming)

- (iii) Fuzzy-logic systems
- (iv) Neural network-based expert system.
- (v) Neuro-fuzzy expert systems.

## 7 Application areas of expert systems.

Ans: i) Medical diagnosis.

Eg: MYCIN (identified bacterial infections and prescribed anti-biotics)

. ii) financial Services.

iii) Technical Support.

iv) Manufacturing.

## 8 Benefits and limitations of expert systems.

Ans: The benefits are:-

i) Consistency.

ii) Availability.

iii) Cost-effectiveness.

iv) Knowledge-preservation.

The limitations are:

i) Knowledge-limitation

iii) Maintenance.

ii) Lack of flexibility.