

# **DAYANANDA SAGAR UNIVERSITY**

Hosur Rd, Kudlu Gate, Srinivasa Nagar, Hal Layout,  
Singasandra, Bengaluru, Karnataka 560068

## **SCHOOL OF ENGINEERING**



### **Assignment & Question\_Bank Artificial Intelligence -II G &H- Section**

Artificial Intelligence & Machine Learning  
Module-1

1. State the advantages of Breadth First Search.
2. What is Commutative production system?
3. Convert the following into Horn clauses.  
 $\forall x: \forall y: \text{cat}(x) \vee \text{fish}(y) \rightarrow \text{likes} \neg \text{eat}(x,y)$
4. Differentiate forward and backward reasoning
5. List the characteristic features of expert system.
6. 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.
  - i) Translate the sentences into formulas in predicate logic.
  - ii) Convert the formulas of part a into clause form
7. Trace the operation of the unification algorithm on each of the following pairs of literals:
  - i)  $f(\text{Marcus})$  and  $f(\text{Caesar})$
  - ii)  $f(x)$  and  $f(g(y))$
  - iii)  $f(\text{marcus}, g(x,y))$  and  $f(x, g(\text{Caesar}, \text{Marcus}))$
8. Explain the following expert systems.
  - i) MYCIN ii) DART
9. Design an expert system for Travel recommendation and discuss its roles.
10. Search Standard Journal & Conference papers on related to state space graph theory & Recursion-based search, Predicate Calculus and Planning, do the literature review & prepare the ppt (less than 10 slides)

**Last date to submit Feb 27<sup>th</sup> 2023, (9 questions to write)**

Course Coordinator

Prof. Pradeep Kumar K