

Con. 5621-09.

B.E. (Comp) Sem VII  
Intelligent System  
 ( 3 Hours )

SP-6563

18/12/09

[ Total Marks : 100

(Lib)

- N.B. : (1) Question No. 1 is **compulsory**.  
 (2) Attempt any **four** questions out of remaining **six** questions.

1. (a) What is AI ? Explain various applications of AI. 10  
 (b) Convert following statements into first order predicate logic :- 10
  - (i) Every gardner likes sun
  - (ii) All purple mushrooms are poisonous
  - (iii) Everyone is loyal to someone
  - (iv) Everyone loves everyone except himself
  - (v) There is a barber who shaves all men in the town who do not shave themselves.
  
2. (a) What do you mean by Intelligent Agent ? Explain various types of intelligent agents. State limitations of each and how it is overcome in another type agent. 10  
 (b) You are given two jugs of capacities 4 litre and 3 litre each. Neither of the jugs have any measuring markers on them. There is a pump that can be used to fill the jugs with water. How can you get exactly two litre of water in 4 litre jug ? Formulate the problem in state space and draw complete diagram. 10
  
3. (a) Assume the following facts :- 10
  - (i) Steve only likes easy courses
  - (ii) Science course are hard
  - (iii) All the course in the basket-weaving department are easy
  - (iv) BK 301 is a basket-weaving course.

Use resolution to answer the question "What course would steve like ?"
- (b) Explain Breadth first search and Depth first search algorithm and state their advantages and disadvantages. 10
  
4. (a) Explain partial order planning with the help of example "spare tyre problem". Changing the flat tyre with spare one. 10  
 (b) What is expert system ? Explain rule based expert system and frame based expert system. 10
  
5. (a) Explain supervised, unsupervised and reinforcement learning with examples. 10  
 (b) Explain knowledge engineering process. 10
  
6. (a) What is inductive learning ? Explain decision tree with example. 10  
 (b) Explain general ontology with respect to categories, mental object and beliefs, events and processes and measures. 10
  
7. Write short notes on any **two** of the following :- 20
  - (a) Game Playing
  - (b) Robot and its Components
  - (c) Baye's Belief Networks
  - (d) Multilayer Feed Forward Neural Network.