GANPAT UNIVERSITY

B.TECH SEM. VIII - MECHATRONICS ENGINEERING
REGULAR EXAMINATION MAY/JUNE - 2013
MC-801 ARTIFICIAL INTELLIGENCE

Time: 3 Hours | Total Marks: 70

Instructions:

1). All questions are **compulsory**.
2). Figures to the **right** indicate full marks.
3). Answers to the two sections must be written in **separate** answer books.
4). Assume all necessary data.

Section – I

Que:-1   Attempt All.

(A)	Draw and explain architecture of artificial neural network.	[04]
(B)	Explain breadth first search technique with its advantages.	[04]
(C)	Discuss the difference between biological neural network and ANN.	[04]

OR

Que:-1   Attempt All.

(A)	Explain the various learning laws in ANN.	[04]
(B)	Draw and explain the different components of a biological neural network.	[04]
(C)	Differentiate the feed forward and recurrent network.	[04]

Que:-2

(A)	What is logic? Explain the proportional logic with example.	[04]
(B)	Explain various defuzzification methods in fuzzy logic.	[04]
(C)	Explain the following terms. 1) Predicate, 2) Clauses, 3) Quantifier	[03]

OR

Que:-2

(A)	Explain with bock diagram the working of a fuzzy controller.	[04]
(B)	Explain the concept of constraint satisfaction with example.	[04]
(C)	Explain with a technical example the crisp set.	[03]

Que:-3   Attempt All.

(A)	Explain the chess problem in context of AI.	[05]
(B)	What is prolog? Differentiate between object oriented language and procedural languages.	[04]
(C)	Explain input predicates in prolog with help of syntax and example.	[03]

Que:-4   **Attempt All.**

(A)   Define artificial intelligence. "John is intelligent student", justify the statement in context of intelligence.   [04]

(B)   Define the water jug problem. Give the proper solution of water jug problem with appropriate rules.   [04]

(C)   Explain the different problems addressed by AI.   [04]

OR

Que:-4   **Attempt All.**

(A)   What is intelligence? A machine can think like a human explain it with help of Turing test.   [04]

(B)   Describe the various mundane tasks of AI.   [04]

(C)   Explain the concept of problem decomposition with example.   [04]

Que:-5   (A)   Draw and explain the architecture of expert system.   [04]

(B)   Explain the A* algorithm.   [04]

(C)   Compare the conventional system with an expert system.   [03]

OR

Que:-5   (A)   Explain the various components of an expert system.   [04]

(B)   What is knowledge representation? Write down different schemes in knowledge representation. Explain scripts with help of an example.   [04]

(C)   What is the role of knowledge engineer in an expert system?   [03]

Que:-6   **Attempt All.**

(A)   Solve the following: $SEND + MORE = MONEY$ [05]

(B)   Explain depth first search with help of algorithm.   [04]

(C)   Explain the requirements of a good control strategy with an example.   [03]

END OF PAPER