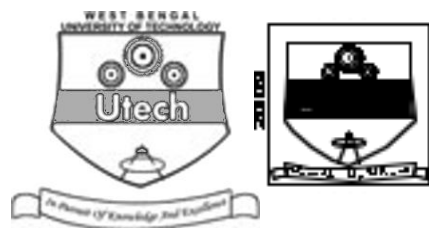


INTELLIGENT SYSTEM (SEMESTER - 6)

CS/BCA/SEM-6/BCAE-601B/09



1.
Signature of Invigilator

2.
Signature of the Officer-in-Charge

Reg. No.

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Roll No. of the
Candidate

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CS/BCA/SEM-6/BCAE-601B/09

ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE – 2009

INTELLIGENT SYSTEM (SEMESTER - 6)

Time : 3 Hours]

[Full Marks : 70

INSTRUCTIONS TO THE CANDIDATES :

1. This Booklet is a Question-cum-Answer Booklet. The Booklet consists of **32 pages**. The questions of this concerned subject commence from Page No. 3.
2. a) In **Group – A**, Questions are of Multiple Choice type. You have to write the correct choice in the box provided **against each question**.
b) For **Groups – B & C** you have to answer the questions in the space provided marked 'Answer Sheet'. Questions of **Group – B** are Short answer type. Questions of **Group – C** are Long answer type. Write on both sides of the paper.
3. **Fill in your Roll No. in the box** provided as in your Admit Card before answering the questions.
4. Read the instructions given inside carefully before answering.
5. You should not forget to write the corresponding question numbers while answering.
6. Do not write your name or put any special mark in the booklet that may disclose your identity, which will render you liable to disqualification. Any candidate found copying will be subject to Disciplinary Action under the relevant rules.
7. **Use of Mobile Phone and Programmable Calculator is totally prohibited in the examination hall.**
8. You should return the booklet to the invigilator at the end of the examination and should not take any page of this booklet with you outside the examination hall, **which will lead to disqualification**.
9. Rough work, if necessary is to be done in this booklet only and cross it through.

No additional sheets are to be used and no loose paper will be provided

FOR OFFICE USE / EVALUATION ONLY

Marks Obtained

	Group – A										Group – B					Group – C					Total Marks	Examiner's Signature
Question Number																						
Marks Obtained																						

.....
Head-Examiner/Co-Ordinator/Scrutineer

6635 (03/06)



DO NOT WRITE ON THIS PAGE



ENGINEERING & MANAGEMENT EXAMINATIONS, JUNE - 2009

INTELLIGENT SYSTEM

SEMESTER - 6



Time : 3 Hours]

[Full Marks : 70

GROUP - A

(Multiple Choice Type Questions)

1. Choose the most correct alternatives of the following : 10 × 1 = 10
- i) Min-Max role of game proceeds by attempting to
- | | | |
|--------------------------------|-----------------------------|----------------------|
| a) maximizing gain of opponent | b) minimizing gain of self | |
| c) maximizing gain of self | d) maximizing loss of self. | <input type="text"/> |
- ii) A Bayesian network is a / an
- | | | |
|---------------------|-------------------|----------------------|
| a) tree | b) directed graph | |
| c) undirected graph | d) none of these. | <input type="text"/> |
- iii) Theorem proving is an example of
- | | | |
|-------------------------|--------------------------|----------------------|
| a) procedural knowledge | b) declarative knowledge | |
| c) heuristic | d) none of these. | <input type="text"/> |
- iv) "Everyone is loyal to someone" can be represented by as provided
loyal (x , y) means x is loyal to y .
- | | | |
|--|--|----------------------|
| a) $\forall x \exists y \text{ loyal } (x, y)$ | b) $\forall x \exists y \text{ loyal } (y, x)$ | |
| c) $\forall y \forall x \text{ loyal } (x, y)$ | d) $\forall x \forall y \text{ loyal } (x, y)$. | <input type="text"/> |
- v) Plausibility pl and Belief bel of S are related by
- | | | |
|------------------------------------|--------------------------------------|----------------------|
| a) $pl (S) = 1 - bel (S)$ | b) $bel (S) = 1 - pl (S)$ | |
| c) $pl (S) = 1 - bel (\sim S)$ | d) $bel (S) = 1 - pl (\sim S)$. | <input type="text"/> |
- vi) The time complexity of BFS is
- | | | |
|----------------|------------------|----------------------|
| a) $O (b^d)$ | b) e^d | |
| c) e^b | d) $O (d^b)$. | <input type="text"/> |

-

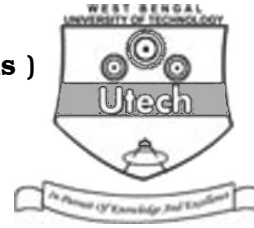
$$3 \times 5 = 15$$

- 6635 (03/06)**



GROUP – C

(Long Answer Type Questions)

Answer any *three* questions.

3 × 15 = 45

7. a) What is Neural Network ? 5
 b) Describe Hopfield model. 5
 c) Write down the WFF of the following statements : 5
 i) Jhon likes all fruits and Apple is fruit so John like Apple.
 ii) Some students are good students.
 iii) All children love their parents.
 iv) Marcus hate ruler and Ceaser is ruler so Marcus hate Ceaser.
 v) Rina likes food that Sima likes.
8. a) Describe with A* algorithm with example. 5
 b) Describe the approaches of Knowledge representation. 5
 c) What are the problems that a heuristic search may face ? Explain them. 5
9. a) What is Expert System ? Explain with example. 5
 b) What do you meant by knowledge acquisition ? 5
 c) Write down the algorithm of DFS. 5
10. a) Write down the steps to convert the predicates into clausal form. 7
 b) Prove or disprove with justification : 8

$$(\forall x) \{ P(x) \rightarrow \{ (\forall y) [P(y) \rightarrow P(f(x,y))] \} \} \& \{ \neg (\forall y) [Q(x,y) \rightarrow P(y)] \}$$
11. Write short notes on any *three* of the following : 3 × 5
 a) Genetic Algorithm
 b) Heuristic Search
 c) 8 puzzle problem
 d) Predicate Logic
 e) Learning by Induction.

 END