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**MCA**  
**MCC501**

**5<sup>th</sup> Semester Back Examination 2017-18**  
**Artificial Intelligence And Expert System**

**BRANCH: MCA**

**Time: 3 Hours**

**Max Marks: 70**

**Q.CODE: B705**

**Answer Question No.1 which is compulsory and any five from the rest.**  
**The figures in the right hand margin indicate marks.**

- Q1 Answer the following questions : (2 x 10)**
- a) What are the different agent environment exist?
  - b) What do you mean by PEAS?
  - c) What do you mean by Crypto-arithmetic problem?
  - d) What do you mean blind search?
  - e) What do mean by Heuristic Function?
  - f) What are the characteristics of heuristic search?
  - g) Define the term Bayesian-network.
  - h) What do you mean by ambiguity in context free grammar?
  - i) What do you mean by parsing? How it is being used.
  - j) Define the term classical planning in your language.
- Q2 a) Differentiate between BFS and DFS. (5)**  
**b) What are different agent program? Explain (5)**
- Q3 a) Describe min-max search with example. (5)**  
**b) What are the difficulties in Hill Climbing and how it mange by best first search? (5)**
- Q4 What do you mean by Expert system? Describe its component and application. (10)**
- Q5 a) What are the different types machine learning? Explain. (5)**  
**b) Describe different type of learning with example. (5)**
- Q6 Draw the parse tree for the following : (10)**  
(i) "Hari gave the flower to Sita "  
(ii) "56+76\*34"
- Q7 Given the following information for a database; (10)**  
A1.If x is on top of y, y supports x.  
A2.If x is above y and they are touching each other ,x is on top of y.  
A3.A cup is above a book.  
A4.A cup is touching a book.  
(i)Translate statements A1 to A4 into clausal form.  
(ii)Show that the predicate supports(book,cup) is true using resolution
- Q8 Write notes about : (5 x 2)**
- a) 8-puzzle problem.
  - b) Block world problem.