CLASS: BE   SEMESTER: V
BRANCH: CSE   SESSION : MO/2018

SUBJECT : CS8101 ARTIFICIAL INTELLIGENCE AND EXPERT SYSTEMS

TIME: 1.5 HOURS   FULL MARKS: 25

INSTRUCTIONS:
1. The total marks of the questions are 30.
2. Candidates may attempt for all 30 marks.
3. In those cases where the marks obtained exceed 25 marks, the excess will be ignored.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. The missing data, if any, may be assumed suitably.

Q1 (a) What is an artificial intelligence system? Mention the benchmark to establish that   [2]
         newly built system has AI capabilities.
    (b) What is difference between procedural and declarative knowledge? Briefly describe   [3]
         the ways for knowledge representation in AI.

Q2 (a) What are the various issues of knowledge acquisition and its representation in   [2]
         computer system?
    (b) Discuss the knowledge base system with its components.   [3]

Q3 (a) Explain the following LISP functions: let, mapcar, putprop and setf.   [2]
    (b) Write the output of the following   [3]
         i.   (member 'b '(a b d))
         ii.   (car(cdr '(a b c d)))

Q4 (a) How to remove double quotation and echo from the LIP output?   [2]
    (b) Write a LISP program to compute factorial iteratively.   [3]

Q5 (a) What is wff? State rules for clausal form conversion.   [2]
    (b) state the unification algorithm.   [3]

Q6 (a) Where there is a room containing a Monkey, a Chair, and Bananas that have been hung   [2+2+1]
         from the centre of the ceiling of the room; out of reach from monkey. If the monkey
         is clever enough, he can reach the bananas by placing the chair directly below the
         bananas and climbing on the top of the chair. Now:
         a) Represent the above statements in FOPL.
         b) Then Convert the FOPL into clausal/axiom form.
         c) Then prove through resolution that Monkey can get the Bananas

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