Tribhuvan University

Institute of Science and Technology

2073

Bachelor Level/ Third Year/ Fifth Semester/ Science	**Full Marks: 60**
Computer Science and Information Technology (CSc. 304)	**Pass Marks: 24**
(Artificial Intelligence)	**Time: 3 hours**

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions. (10x6=60)

1. Do you agree "the development of Artificial Intelligence has had some negative effect on the society"? If you agree list some of them and put your opinion in the support of development of Artificial Intelligence.
2. What is 'Turing Test in AI? Criticize the performance of the 'Turing Test' to measure the intelligent of the machine.
3. Justify the searching is one of the important art of AI. Explain in detail about depth first search and breadth first search techniques with an example.
4. What is meant by admissible heuristic? What improvement is done in A* search than greedy Search? Prove that A* search gives us optimal solution if the heuristic function is admissible.
5. Define a natural language processing. Explain the different issues involved in the natural language processing.
6. Differentiate between inference and reasoning. Why probabilities reasoning is important in AI? Explain with an example.
7. What is Bayesian network? Explain how Bayesian network represent and inference the uncertain knowledge.
8. Consider the following statements:

   Rabin likes only easy courses. Science courses are hard. All courses in the CSIT are easy. CSC 101 is a CSIT course.

a. Translate the sentences into predicate logic.

b. Convert your sentences into clausal normal form (CNF).

9. What are conceptual graphs? Represent the following statements into conceptual graph.

King Ram marry Sita, the daughter of king Janak.

10. Define the Model-Based and Cased Based system. Discuss which system is suitable for the following problems

i. Electronic circuit testing

ii. Legal ReasoningRO