May 2023

BCA (DS) IVth Semester

Artificial Intelligence–BCA–DS–211

Time : 3 Hours] [Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART–A

1. (a) What are different components of intelligence? (1.5)

   (b) What are domain areas of AI? (1.5)

   (c) What do you mean by problem solving as searching? (1.5)

   (d) What are the characteristics of a good knowledge representation scheme? (1.5)

   (e) What is a production system? (1.5)

   (f) What are benefits of First Order Predicate Logic over Propositional Logic? (1.5)

May 2023
BCA- IVth SEMESTER
Personality Development
(AUD-07)

Time: 3 Hours] [Max.

Instructions :

1. *It is compulsory to answer all the questio each) of Part-A in short.*
2. *Answer any four questions from Part-B*
3. *Different sub-parts of a question are adjacent to each other.*

PART-A

1. (a) *Neetisatkam.*
   (b) Virtue.
   (c) Ethics according to Gita.
   (d) *Sanyasa* (renunciation).
   (e) Empathy.
   (f) *Varnas.*
   (g) *Dharma according to Bhagvad*
   (h) *Vanprastha.*

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) What are benefits of computable functions while representing the knowledge using FOPL? (1.5)

What do you mean by rule based deduction system? (1.5)

What is Rote learning? (1.5)

What are benefits of problem solving using planning approach? (1.5)

PART–B

What is problem state space? (7)

Explain Turing test and its criticisms. (8)

/hat are the issues in the design of a search oblem? (6)

plain how will you apply Depth First Search d Breadth First Search on the problem whose Initial final states are given below. (9)

2	3	1
4	6	5
8	7	

Initial State

1	2	3
4	5	6
7	8	

Final State

y whether following two statements are logically ilent or not :

Good food is not cheap

Cheap food is not good (7)

(b) Explain how does system learn by using learning by examples approach. (8)

5. (a) Explain how do we represent a plan using situational calculus. (8)

   (b) Explain how does partial order planning algorithm work by taking suitable example. (7)

6. (a) Explain and give algorithm for constrain satisfaction. (8)

   (b) Give architecture of a typical rule based expert system. (7)

7. (a) Devise at least 3 heuristic function design criteria to solve 8-puzzle problem. (9)

   (b) What do you mean by syntactic and semantic processing of a natural language sentence? (6)