BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)

CLASS: BTECH/BARCH **SEMESTER : VI**
BRANCH: MECH/ECE/EEE **SESSION : SP/2024**

SUBJECT: CS363 ARTIFICIAL INTELLIGENCE FUNDAMENTALS (OE-III)

TIME: 3 Hours **FULL MARKS: 50**

INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
***4*. Before attempting the question paper, be sure that you have got the correct question paper.**
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

			CO	BL
Q.1(a)	Define AI. Elaborate Tic-Tac-Toe problem.	[5]	1	1
Q.1(b)	Describe structure of agent. Illustrate Goal Based agent and Learning Agent with example	[5]	1	2
Q.2(a)	Describe the working of Simulated Annealing Search. Also explain Local Beam Search	[5]	2	4
Q.2(b)	With help of the tree explain the process involved in Mini Max Search and Alpha-Beta pruning.	[5]	2	5
Q.3(a)	List various inferencing techniques. Describe each of them with example.	[5]	3	5
Q.3(b)	What are the components of a typical expert system? How are they related to each other? Make a diagram and explain.	[5]	3	3
Q.4(a)	Describe State Space planning and Hierarchical planning.	[5]	4	4
Q.4(b)	Explain the following with respect to Natural language processing: a. Lexical analysis b. Pragmatic analysis	[5]	5	4
Q.5	Using Genetic algorithm , maximize the following function $F(x) = x^2$ Where x is permitted to vary between 0 and 31.	[10]	5	5

::::::30/04/2024::::::M