

Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2022

OE00088 Artificial Intelligence

Programme: B.Tech.

Branch/Specialisation: CSE

Duration: 3 Hrs.**Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. Artificial Intelligence is about_____. **1**
 (a) Playing a game on computer
 (b) Making a machine intelligent
 (c) Programming on machine with your own intelligence
 (d) Putting your intelligence in machine
- ii. Among the given options, which search algorithm requires less memory? **1**
 (a) Optimal Search (b) Depth First Search
 (c) Breadth-First Search (d) Linear Search
- iii. In artificial Intelligence, knowledge can be represented as_____. **1**
 I. Predicate Logic II. Propositional Logic
 III. Compound Logic IV. Machine Logic
 (a) Both I and II (b) Only II
 (c) Both II and III (d) Only IV
- iv. Different learning method does not include? **1**
 (a) Memorization (b) Analogy
 (c) Deduction (d) Introduction
- v. Which of the factors affect the performance of learner system does not include? **1**
 (a) Representation scheme use
 (b) Training scenario
 (c) Type of feedback
 (d) Good data structures

P.T.O.

[2]

- vi. The total number of proposition symbols in AI are _____. **1**
 (a) 3 proposition symbols (b) 1 proposition symbols
 (c) 2 proposition symbols (d) No proposition symbols
- vii. The total number of logical symbols in AI are _____. **1**
 (a) There are 3 logical symbols
 (b) There are 5 logical symbols
 (c) Number of logical symbols are based on the input
 (d) Logical symbols are not used
- viii. On which of the following approach a basic line following robot is based? **1**
 (a) Applied approach (b) Weak approach
 (c) Strong approach (d) Cognitive approach
- ix. Which of the following produces hypotheses that are easy to read for humans? **1**
 (a) Machine Learning (b) ILP
 (c) First-order logic (d) Propositional logic
- x. AI algorithm is based on **1**
 (a) BFS (b) DFS
 (c) Best First Search (d) Heuristic search
- Q.2 i. Describe artificial intelligence and its characteristics. **2**
 ii. How AI is benefit for society? **3**
 iii. What is production system and also explain its types. **5**
 OR iv. Explain BFS technique with example. **5**
- Q.3 i. What is optimization problem? **4**
 ii. Describe heuristics search techniques. **6**
 OR iii. Explain A* and AO* algorithm. **6**
- Q.4 i. What is predicate logic? Explain with example. **4**
 ii. Write various knowledge representation issues. Provide the solution of any two issues. **6**
 OR iii. What is a script? Construct a script for going bank to withdraw money. **6**

[3]

- Q.5 i. Explain Baye's theorem. **4**
 ii. Compare monotonic and non-monotonic reasoning with examples. **6**
 OR iii. Compare forward and backward reasoning with example. **6**
- Q.6 Attempt any two:
 i. What is minimax search for game playing? Explain Min max **5**
 algorithm.
 ii. Explain Block word problem in robotics. **5**
 iii. Give two application area of robotics. How a robot gets various **5**
 sensory information?

Marking Scheme
OE00088 Artificial Intelligence

Q.1	i.	Artificial Intelligence is about_____.	1
		(b) Making a machine intelligent	
	ii.	Among the given options, which search algorithm requires less memory?	1
		(b) Depth First Search	
	iii.	In artificial Intelligence, knowledge can be represented as_____.	1
		I. Predicate Logic II. Propositional Logic	
		III. Compound Logic IV. Machine Logic	
		(a) Both I and II	
	iv.	Different learning method does not include?	1
		(d) Introduction	
	v.	Which of the factors affect the performance of learner system does not include?	1
		(d) Good data structures	
	vi.	The total number of proposition symbols in AI are _____.	1
		(c) 2 proposition symbols	
	vii.	The total number of logical symbols in AI are _____.	1
		(b) There are 5 logical symbols	
	viii.	On which of the following approach a basic line following robot is based?	1
		(b) Weak approach	
	ix.	Which of the following produces hypotheses that are easy to read for humans?	1
		(b) ILP	
	x.	AI algorithm is based on	1
		(c) Best First Search or (d) Heuristic search	
	Q.2	i.	Describe artificial intelligence
			Its characteristics
		ii.	How AI is benefit for society?
			Three points 1 mark for each
		iii.	Production system
			Its types
	OR	iv.	BFS technique

		Example.	2 marks	
Q.3	i.	Optimization problem		4
	ii.	Heuristics search techniques.		6
OR		As per the explanation		
	iii.	A*	3 marks	6
		AO* algorithm.	3 marks	
Q.4	i.	Predicate logic	2 marks	4
		Example.	2 marks	
	ii.	Knowledge representation issues	3 marks	6
		Solution of any two issues.	3 marks	
OR	iii.	Script	3 marks	6
		Script for going bank to withdraw money	3 marks	
Q.5	i.	Baye's theorem.		4
		As per the explanation		
	ii.	Monotonic with examples	3 marks	6
		Non-monotonic reasoning with examples	3 marks	
OR	iii.	Forward and backward reasoning		6
		Five points 1 mark for each	5 marks	
		Example	1 mark	
Q.6		Attempt any two:		
	i.	Minimax search for game playing	3 marks	5
		Min max algorithm.	2 marks	
	ii.	Block word problem in robotics.		5
		As per the explanation		
	iii.	Two application area of robotics	2 marks	5
		Robot gets various sensory information	3 marks	
