

Charotar University of Science and Technology
Devang Patel Institute of Advance Technology and Research
Department of Computer Science and Engineering
Subject: CS341 - Artificial Intelligence
External Exam

Semester: 5th (B. Tech.) Maximum Marks: 70 Date: 27/11/2021, Saturday Time: 10:00 am to 01:00 pm

Instructions:

- (i) Attempt *all* the questions.
- (ii) Figures to the right indicate *full* marks.
- (iii) Make suitable assumptions and draw neat figures wherever required.

Section : 1

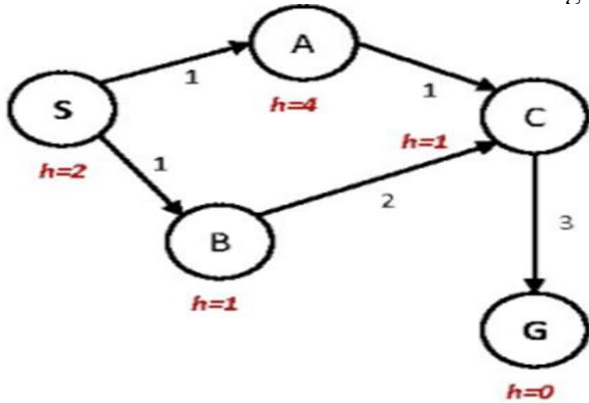
Sr. No	Questions	Marks	CO	BL
1	What is Artificial intelligence? a. Putting your intelligence into Computer b. Programming with your own intelligence c. Making a Machine intelligent d. Playing a Game	1	3	U
2	Which of the following could be the approaches to Artificial Intelligence? a. Strong Artificial Intelligence b. Weak Artificial Intelligence c. Applied Artificial Intelligence d. All of the mentioned	1	2	U
3	What is an 'agent'? a. Perceives its environment through sensors and acting upon that environment through actuators b. Takes input from the surroundings and uses its intelligence and performs the desired operations c. A embedded program controlling line following robot d. All of the mentioned	1	3	R
4	Categorize Crossword puzzle in Fully Observable / Partially Observable. a. Fully Observable b. partially Observable c. All of the mentioned d. None of the mentioned	1	2	U

5	<p>What stage of the manufacturing process has been described as "the mapping of function onto form"?</p> <p>a. Design b. Distribution c. project management d. field service</p>	1	2,3	R
6	<p>What is Machine learning?</p> <p>a. The autonomous acquisition of knowledge through the use of computer programs b. The autonomous acquisition of knowledge through the use of manual programs c. The selective acquisition of knowledge through the use of computer programs d. The selective acquisition of knowledge through the use of manual programs</p>	1	2,3	C
7.	<p>Which of the factors that affect the performance of the learner system does not include?</p> <p>a. Representation scheme used b. Training scenario c. Type of feedback d. Good data structures</p>	1	2,3	N
8	<p>Which Package contains the most fundamental functions to run R?</p> <p>a. root b. child c. base d. parent</p>	1	1	A
9	<p>Which of the following is a base package for R language?</p> <p>a. util b. lang c. tools d. spatial</p>	1	1	R
10	<p>Which of the following is used to plot multiple histograms?</p> <p>a. multi.plot() b. multi.hist() c. xyplot.multi() d. poly()</p>	1	1,2	C
11	<p>Which of the following is not an optimization technique?</p> <p>a. Artificial Neural Network b. Particle Swarm Optimization c. Genetic Algorithm d. Ant Colony Optimization</p>	1	1,3	N

12	Which of the following is not a learning type? a. Supervised Learning b. Unsupervised Learning c. Reinforcement Learning d. Delta Learning	1	1	A
13	What is CNN? a. Convex Neural Network b. Complex Neural Network c. Classical Neural Network d. Convolution Neural Network	1	2	R
14	Which of the following is not a supervised learning technique? a. True b. False	1	2	C
15	Which of the following is not a supervised learning technique? a. Classification b. Prediction c. Clustering d. None of the above	1	2,3	N
16	Naive Bayes algorithm work when there is a dependency of the attributes. a. True b. False	1	2,3	A
17	Which of the following is part of CNN? a. Pooling Layer b. Convolution Layer c. Fully Connected Layer d. All of the above	1	3	C
18	Bias is added in which layer of ANN. a. Input Layer b. Hidden Layer c. Output Layer	1		R
19	If we increase the number of the hidden layer of the neural network, the performance of the network is increased. The given statement is True or False. a. True b. False	1		A

20	Which of the following is not a pooling technique? a. Max b. Min c. Median	1		A
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Section : 2

Sr. No	Questions	Marks	CO	BL
1	Discuss with examples: AI Problem Characteristic	5	1	R
2	<p>Perform the A* Algorithm on the following figure. Explicitly write down the queue at each step. Find a path between S and G in the following graph. The number attached to each edge in the graph represents the COST of traversing the edge. The number h associated with each node represents a heuristic under-estimate of the distance of the node to the goal G.</p> 	7	1,3	C
3	<p>Solve the crypt arithmetic problem using the constraint satisfaction procedure.</p> $\begin{array}{r} \text{L O G I C} \\ + \text{L O G I C} \\ \hline \text{P R O L O G} \end{array}$	5	1,2	N
4	<p>(a) Represent the following sentences in first-order logic [4]</p> <ol style="list-style-type: none"> Some students took English subject. Every student who takes English passes it. Every person who buys policy is smart. No person buys an expensive policy. <p>(b) Explain the following terms [3] Semantic Nets Frames</p>	7	2	A
5	What are the basic knowledge representation issues? What are the considerations in knowledge representation?	5	3	C
6	What is the Difference between ANN and CNN? Explain in brief.	4	2	N

7	Explain Ant-colony optimization with example.	7	1	A
8	Explain Deep Neural Network with example	5	1,2	C
9	Explain Problem Reduction using “AND-OR” graph.	5	2,3	N

Note:

CO – Course Outcomes

BL – Bloom’s Taxonomy Level

Best of Luck