

# Mock Test

## Test Content

Question 1

5 Points

The convolution operation between which filter (choice) and the image below results in the given feature map ?

1	1	1	0	0
0	1	1	1	0
0	0	1	1	1
0	0	1	1	0
0	1	1	0	0

Image

3	5	3
2	4	5
2	4	3

Feature map

...

- ☐ 1 0 0  
1 1 1  
0 1 0
- ☐ 1 0 1  
1 1 1  
0 1 0
- ☐ 0 1 0  
1 1 1  
0 1 0
- ☐ 1 0 1  
1 0 1  
0 1 0

Question 2

6 Points

What is the output y of the following perceptron:

Question 3

3 Points

What is the sequence of visited nodes during Breadth First Search?

...

☐ 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15

☐ 1,2,4,5,8,9,10,11,12, 3,6,7,13,14,15

☐ 1,2,4,8,9,3,6,12,13,5,10,7,14,11,15

☐ 1,2,4,8,9,5,10,11,3,6,12,13,7,14,15

Question 4

3 Points

Which of the strings is not accepted by this FSM?

...

☐ ababacdaac

☐ aaaacdaab

☐ aacdbdb

☐ ababacdbdb

Question 5

3 Points

Which Agent task environment description best characterises playing a game of tennis.

- ☐ Fully observable, stochastic, episodic (every point is separate), dynamic, continuous, multi-agent.
- ☐ Partially observable, stochastic, sequential, dynamic, continuous, single agent
- ☐ Partially observable, stochastic, sequential, dynamic, continuous, multi-agent.
- ☐ Partially observable, deterministic, sequential, static, discrete, single agent.

Question 6

1 Point

Voice assistants such as Siri, Corona, are now good at coping with embedded sentences.

- ☐ True
- ☐ False

Question 7

1 Point

A typical Automatic Feature extraction and Classification system consists of Input Layer, Convolution and Pooling layers, and finally fully connected output layer.

- ☐ True
- ☐ False

Question 8

1 Point

A perceptron can model any logical function.

- ☐ True
- ☐ False

Question 9

1 Point

A rational agent chooses whichever action maximizes the expected value of the performance measure given the percept sequence to date.

- ☐ True
- ☐ False

Question 10

7 Points

Consider a state space where the start state is number 1 and each state k has three successors: numbers 4k, 4k + 1 and 4k + 2. So, the successors to state 1 are 4, 5 and 6, the successors to state 4 are 16, 17 and 18, and so on. Which of the following describes the order of nodes visited using breadth first search to a depth of 2? (Hint: draw a graph)

- ☐ 1,4,16,5,20,6,24,17,18,21,22,25,26
- ☐ 1,4,16,17,18,5,20,21,22,6,24,25,26
- ☐ 1,4,5,6,16,20,24,17,21,25,18,22,26
- ☐ 1,4,5,6,16,17,18,20,21,22,24,25,26