

الفرقة الثالثة

2019
2020

9



Menufiya University
1st Term – Final Exam

Class: 3rd Year

Subject: Artificial Intelligence



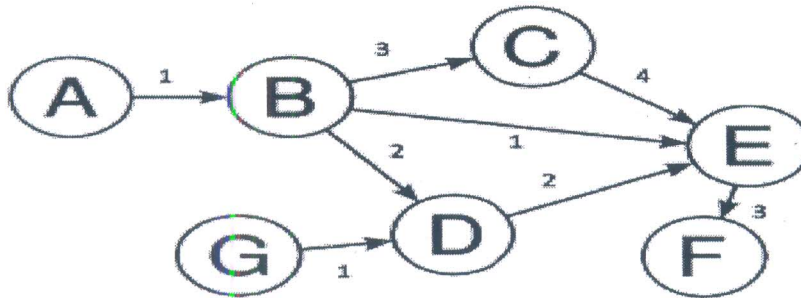
Faculty of Electronic Engineering
Dept. of Computer Science and Engineering

Time: 3.00 hours

Date: 21/1/2019

Answers all from following questions (in two pages) [70 Marks]

- I) a- Discuss in brief one of the modern applications or products of the artificial intelligence. [5 Marks]
b- Write short notes about the general of problems in AI. [5 Marks]
- II) a- Illustrate the different uninformed search techniques. [10 Marks]
b- Show the best path benefit to the goal (the start state is "a", and "g" the goal stat is "f"). [10 Marks]



III) a- Construct the sematic network for the following sentences [10 Marks]

- | | |
|------------------------------|----------------------------|
| - frosty instance of snowman | - snow color white |
| - snowman made of snow | - snow temperature is cold |
| - snow from water | - snowman made of snow |
| - snow hardness soft | - ice from water |
| -snow texture slippery | - ice hardness hard |

- ice texture slippery

- ice temperature is cold

- ice color clear

b- Write the following sentences in FOL form.

[10 Marks]

1- There exists a smart student.

2- Bill does not take Analysis.

3- Bill has at least one sister.

4- All students are smart.

IV) a- What is the difference between

[10 Marks]

_ Supervised and Unsupervised learning algorithms

_ Classification and clustering.

b- From the following table, show how to calculate the information gain of the attribute (Temperature) [Note: don't calculate the log value]

[10 Marks]

	<i>Attributes</i>			<i>Decision</i>
	Temperature	Headache	Nausea	Flu
1	high	yes	no	yes
2	very_high	yes	yes	yes
3	normal	no	no	no
4	high	yes	yes	yes
5	high	no	yes	no
6	normal	yes	no	no
7	normal	no	yes	no

With my best wishes

Dr. Eng. Ahmed M. Elmahalawy