



UMS
UNIVERSITI MALAYSIA SABAH

PEPERIKSAAN PERTENGAHAN SEMESTER
SEMESTER 1 SESI 2021/2022

NOVEMBER 2021

MASA: 2 JAM

FAKULTI : FAKULTI KOMPUTERAN DAN INFORMATIK

KOD KURSUS : KK 04203

TAJUK KURSUS : AGEN KECERDASAN

- ARAHAN :**
1. Kertas soalan ini mengandungi **LIMA (5)** soalan.
*This paper contains **FIVE (5)** questions.*
 2. Anda dikehendaki menjawab **SEMUA** soalan tersebut.
*You are required to answer **ALL** questions.*
 3. Semua jawapan hendaklah ditulis di dalam buku jawapan yang disediakan.
All answers must be written in the answer booklet provided.
 4. Anda tidak dibenarkan membawa keluar kertas soalan ini dari dewan peperiksaan.
You are not allowed to bring this question paper out of the examination hall.

ANSWER ALL QUESTIONS.

1. Explain **THREE (3)** differences between an agent and an object and **TWO (2)** differences between an agent and an AI system.
(10 marks)
2. List **FOUR (4)** types of agents used for admin and debugging tools in a JADE architecture.
(4 marks)
3. You are building an agent that is capable of interacting with users such as Siri and Alexa. Discuss the agent architecture that you will choose? Justify your answer.
(10 marks)
4. Define Multi-Agent System (MAS) and discuss **THREE (3)** advantages of MAS.
(6 marks)
5. Consider the following payoff matrix, for the "Stoplight game" depicted in Table 1.

Table 1

		<i>Player B</i>	
		Stop	Go
<i>Player A</i>	Top	-1 -1	0 5
	Bottom	3 0	-8 -8

- a) Identify the dominant strategy for Player A (if any)? Why?
(3 marks)
- b) Identify the dominant strategy for Player B (if any)? Why?
(3 marks)
- c) Identify the Nash equilibrium (if any)? Justify your answer.
(4 marks)
- d) Identify which of the outcomes is Pareto efficient (if any). Justify why.
(5 marks)
- e) Identify with justification which outcome(s) in these payoff matrices maximise social welfare.
(5 marks)

- KERTAS SOALAN TAMAT -
- END OF QUESTION PAPER -