



Malaysia-Japan International Institute of Technology
UNIVERSITI TEKNOLOGI MALAYSIA

SMJE 4263 - COMPUTER INTEGRATED MANUFACTURING

ONLINE TEST 2

DURATION: 1 HOUR

DATE – 27th JUNE 2023

TOTAL MARKS: 20 MARKS

Note:

- This test comprises 20% of total course marks.
- This test question consists of 3 pages including the front page.
- Your complete answers must be sent to <zool@utm.my> not later than 15:01 on the same day.

Name:	
IC. No.:	
Matric No.:	
Section:	01
Lecturers:	Assoc Prof Ir Dr Zool Hilmi Ismail

QUESTION	PO/CO	TAXO	MARKS
1	PO1/CO2	C4	/10
2	PO4/CO3	C5	/10
TOTAL			/20

QUESTION 1

In an aircraft assembly plant, it took 53 and 49 minutes to assemble the 7th and 12th control panels, respectively. As a component of the Manufacturing Progress Function aimed at predicting assembly times for this particular operation, your task is to **determine** the learning rate percentage and **assess** the time it takes to assemble the 37th panel. Additionally, you are expected to **propose** a cycle time necessary to complete the specified assembly task.

[10 marks]

(CO2 / PO2 / C4)

Answer for Question 1:

QUESTION 2

Given that each aisle of a four aisle Automated Storage and Retrieval System (ASRS) as shown in Figure Q2 below is to contain (Choose any unique integer number between 50 to 80) storage compartments in the length direction and 12 compartments vertically. All storage compartments will be the same size to accommodate standard size pallets of dimensions: $x = 42$ in and $y = 48$ in. The height of a unit load $z = 36$ in. Using the allowances, $a = 6$ in, $b = 8$ in, and $c = 10$ in, **evaluate** on the maximum capacity for the system as well as its possible dimension. Also kindly **provide** some discussions based on your parameter selection.

[10 marks]

(CO3 / PO4 / C5)



Figure Q2: Automated Storage and Retrieval System

Answer for Question 2: