



Malaysia-Japan International Institute of Technology
UNIVERSITI TEKNOLOGI MALAYSIA

SMJE 4263 - COMPUTER INTEGRATED MANUFACTURING
ONLINE TEST 2

DURATION: 1 HOUR

DATE – 24th JUNE 2022

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 17:05 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(a)	PO1/CO1	C4	/5
1(b)	PO2/CO2	C4	/5
2	PO4/CO3	C5	/10
TOTAL			/20

QUESTION 1

- (a) You are required to **explain** the phenomena occurs in manufacturing process when the cycle time required to perform a given activity decreases as the number of cycle increases.

[5 marks]

(CO1 / PO1 / C4)

- (b) In an aircraft assembly plant, it took 54 and 50 minutes to assemble the 7th and 12th control panels, respectively. As part of Manufacturing Progress Function to predict assembly times for this operation, **determine** the percentage of learning rate and **evaluate** the time to assemble the 37th panel.

[5 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 Fig.2 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.

[10 marks]

(CO3 / PO4 / C5)

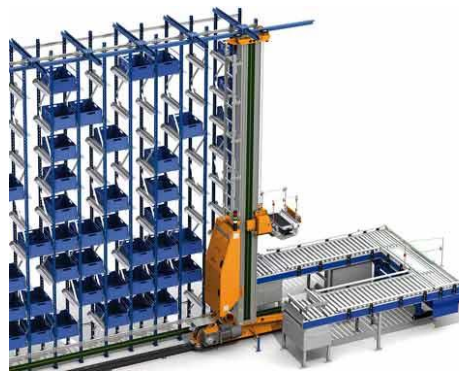


Fig. Q2: Automated Storage and Retrieval System

Answer for Question 2: