IME 408 Industrial Robotics -- Edwards

Test II

September 10, 2020

Answer the Following Questions to the Best of Your Ability – GOOD LUCK!!

ET	Y FIRST AGAIN!!!!		
1)	If there were an incident in the Robotics Lab which telephone number should you call if you were to u		ntion, what
	b) Why THIS number??		
2)	If you need to go into a robotic work cell, Turning into a robotic work cell is a layer of safety.	the Teach Pendant "On" ar True	nd taking it False
	Why??		

3) What a	are Denavit-Hartenberg (D-H) Parameters??	
4) A 25%	Improvement in Cycle Time yields what Level of Improvement in JPH?	
B) C) D)	The Same 25% Between 20% and 25% Between 25% and 30% 33% All The Above	
IN LAB;		
5) In Lab,	, There is an E-stop on the Teach Pendant and the Control Panel. True F	alse
	nue r	aise
6) On the		
	e teach pendent, what button clears a fault?	
B) C) D)	e teach pendent, what button clears a fault? Clear Reset Shift +J1 All The Above	
B) C) D) E)	Clear Reset Shift +J1	e robot?

8) What is the difference between accurate and pro-	ecise??	
b) Which are robots noted for?		
9) Which robotic system would be more flexible as	nd cost effective?	
	Prismatic	Articulating
10) If you have a large working environment and crankshafts to move from a forging press across an Robotic System might you wish to use?	•	•
11) Ideally, a Body Shop wants to operate in	mode Batch	One Piece Flow
12) If the Body Shop were asked to move producti would be the necessary improvement (%) in the Cy		•

Honolulu Assembly - TCF Layout

F D. (Station 1	Station 2	Station 3	Station 4	Station 5	Station 6	Station 7	
From Paint	45 sec./ hr.	5 sec./ hr.	12 sec./ hr.	2 sec./ hr.	2 sec./ hr.	2 sec./ hr.	4 sec./ hr.	1 🛌
			Triı	m 1 - 67 JPH				
	Station 14	Station 13	Station 12	Station 11	Station 10	Station 9	Station 8	Buffer
	7 sec./ hr.	13 sec./ hr.	150 sec./ hr.	5 sec./ hr.	20 sec./ hr.	5 sec./ hr.	160 sec./ hr.	5 Max
	Trim 2 - 67 JPH							
Buffer	Station 15	Station 16	Station 17	Station 18	Station 19	Station 20	Station 21	- V
30 Max	40 sec./ hr.	30 sec./ hr.	23 sec./ hr.	22 sec./ hr.	15 sec./ hr.	10 sec./ hr.	40 sec./ hr.	
\rightarrow			Chas	sis 1 - 65 JPF	I			
	Station 28	Station 27	Station 26	Station 25	Station 24	Station 23	Station 22	Buffer
	115 sec./ hr.	112 sec./ hr.	115 sec./ hr.	115 sec./ hr.	110 sec./ hr.	115 sec./ hr.	110 sec./ hr.	5 Max
	Chassis 2 - 65 JPH							
Buffer	Station 29	Station 30	Station 31	Station 32	Station 33	Station 34	Station 35	
30 Max	0 sec./ hr.	0 sec./ hr.	10 sec./ hr.	160 sec./ hr.	2 sec./ hr.	5 sec./ hr.	3 sec./ hr.	
Y			Fin	al 1 - 63 JPH				
	Station 42	Station 41	Station 40	Station 39	Station 38	Station 37	Station 36	Buffer 5 Max
To Chinning —	3 sec./ hr.	4 sec./ hr.	155 sec./ hr.	4 sec./ hr.	6 sec./ hr.	5 sec./ hr.	3 sec./ hr.	J Wiax
To Shipping			Fin	al 2 - 63 JPH				

FOR THE FOLLOWING QUESTIONS - PLEASE REFER TO THE HOLOLULU PROJECT ABOVE!!!

13) If we automate Trim 1 and improve the SAJPH output by 20%, what percent improvement would we expect to see at the Paypoint?

14) If we automate Chassis 2 and improve the SAJPH output by 20%, what percent improvement would we expect to see at the Paypoint?	
15) Where would be the new Bottleneck? Where would it not be??	
16) Why would we not see the "Full Benefit" of this potential improvement in Chassis 27	>
17) What would be new SAJPH of Chassis 2??	

Extra Credit

I) In the Book, "The Goal"	
Who was Alex Rogo	o's Mentor?
II) What are Isaac Asimov's 3 Laws	s of Robotics?
1)	
2)	

3)