



Continuous Assessment Test 1 - August 2022

Programme	B. Tech-CSE (AIR)	Semester	Fall 2022 - 23
Course	Robotics Based Industrial Automation	Code	CSE3060
Faculty	Dr. Ganala Santoshi	Class Nbr	CH2022231000336
Time	90 Min	Slot(s)	A1 + TA1
		Max. Marks	50

Answer ALL the Questions

Q.No.	Sub. Sec.	Question Description	Marks
1		Consider a scenario in which you are employed as a trainee engineer. You are asked to explain the differences between the robotics and automation in five points with suitable industrial examples. [5 marks]	[10]
2		You are asked to explain the various types of industrial automation systems with suitable scenarios. [5 marks] Organization ABC is highly competent in manufacturing certain kinds of automobile spare parts. Management is planning to fully automate the manufacturing process. For the above scenario, justify the need of automation migration strategies. [5 marks]	[10]
3		Construct a scenario, where the application of USA (Understand, Simplify, and Automate) principle is not recommended. [5 marks] Compare the various methods of work piece transport [5 marks]	[10]
4		Highlight the adverse effects of non-compliance of control functions of an automated transfer system. [5 marks] Use PW (Present Worth) method of evolution for the selection. Machine 'X' has a first cost of 120,000, an operating cost of 19,000 per year, and a 15,000 salvage value after 15 years. Machine 'Y' will cost 135,000 with an operating cost of 14,000 per year and a salvage value of 17,000 after 15 years. At an MARR of 22% per year, which should be selected? [5 marks]	[10]
5		Use FW (Future Worth) method of evolution for the selection. Machine 'X' has a first cost of 120,000, an operating cost of 19,000 per year, and a 15,000 salvage value after 15 years. Machine 'Y' will cost 135,000 with an operating cost of 14,000 per year and a salvage value of 17,000 after 15 years. At an MARR of 22% per year, which should be selected? [5 marks] Using CC (Capitalized Cost) method for the selection. Machine 'X' has a first cost of 20,000, an operating cost of 9,000 per year, and a 5,000 salvage value after 5 years. Machine 'Y' will cost 35,000 with an operating cost of 14,000. At an MARR of 12% per year, which should be selected? [5 marks]	[10]
		A manufacturing firm decides to implement the automated flow lines for producing a particular work part or assembly. What are the few series of specifications that must be decided. [5 marks]	