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17MT71

Seventh Semester B.E. Degree Examination, July/August 2021
Industrial Robotics

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

1	a.	Define Automation. Explain different types of automation.	**(08 Marks)**
	b.	Classify and explain with sketch the various configurations of Robot.	**(12 Marks)**
2	a.	Write a short notes on Robot drive system and Robot motions.	**(10 Marks)**
	b.	Explain Robot joint control design.	**(10 Marks)**
3	a.	Explain the Forward and Reverse transformation of the two degree of freedom arm.	**(12 Marks)**
	b.	Explain the configuration of a robot controller.	**(08 Marks)**
4	a.	What are the factors considered for the selection of grippers?	**(08 Marks)**
	b.	Briefly explain Proximity and Range sensor with a neat sketch.	**(12 Marks)**
5	a.	Explain the operation of a vidicon tube in sensing and digitizing function in Machine Vision.	**(10 Marks)**
	b.	Explain different techniques used in Image Processing.	**(10 Marks)**
6	a.	Explain head through programming methods.	**(10 Marks)**
	b.	Write a brief note on Artificial Intelligence.	**(10 Marks)**
7	a.	With a neat sketch explain the basic types of Robot cell layouts.	**(12 Marks)**
	b.	Mention the factors to be considered in the design of work cell.	**(08 Marks)**
8	a.	Explain the pick and place operation.	**(10 Marks)**
	b.	Write a short note on Machine Loading and Unloading for different production operation.	**(10 Marks)**
9	a.	Explain briefly about the spot welding robot and its benefits.	**(10 Marks)**
	b.	Explain the features of the welding robot.	**(10 Marks)**
10	a.	Explain various assembly operations, when a robot is used in assembly automation.	**(08 Marks)**
	b.	Explain Series Assembly System with a neat sketch.	**(12 Marks)**

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