Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Sixth semester B.Tech examinations (S), September 2020

Course Code: AE302
Course Name: PROCESS CONTROL

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks. Marks

1	a)	Explain the characteristics of physical system.	(10)
	b)	Discuss the incentives for process control.	(5)
2	a)	Define manipulated variable, controlled variable and load variable.	(6)
	b)	What is the use of scaling in industries? Explain scaling with example.	(9)
3	a)	What is meant by linearizing effect of equal percentage valve?	(5)
	b)	Analyse liquid level control loop.	(10)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	What are the elements of feed back control system?	(10)
	b)	Discuss the goals of controller tuning.	(5)
5	a)	Explain control performance measures for set-point changes.	(7)
	b)	Describe feed back feed forward controller with suitable example.	(8)
6	a)	Explain cascaded controller with example.	(9)
	b)	What are the different type of selective control system?	(6)

PART C

Answer any two full questions, each carries 20 marks.

7	a)	What is RGA? Mention the importance of RGA for predicting interaction in multivariable control system.	(10)
	b)	Explain the multi-loop control performance through loop pairing.	(10)
8	a)	What is self tuning controller? Explain.	(8)
	b)	Draw ANN neuron model and explain elements in the model.	(8)
	c)	Distinguish fuzzy set from crisp set.	(4)
9	a)	Explain the multiloop control performance through single loop enhancement.	(8)
	b)	Explain i) Smith Predictor ii) Model Predictive Controller	(12)

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