

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Scheme for Valuation/Answer Key

Scheme of evaluation (marks in brackets) and answers of problems/key

SEVENTH SEMESTER B.TECH DEGREE EXAMINATION, DECEMBER 2018

Course Code: AE401

Course Name: LOGIC & DISTRIBUTED CONTROL SYSTEM

Max. Marks: 100

Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks.

			Marks
1	a)	Architecture of PLC: Diagram:5, Description: 5	(10)
	b)	Isolators in PLC IO modules: block diagram:3, Description:2	(5)
2	a)	IEC 61131 standard for PLC programming:8	(8)
	b)	PLC ladder for Bottle filling system:5, Description:2	(7)
3	a)	AnalogI/O module:5 discrete I/O module:5	(10)
	b)	advantages of PLC over relay logic:5	(5)

PART B

Answer any two full questions, each carries 15 marks.

4	a)	types of displays in DCS systems:7, sketches:3	(10)
	b)	automation pyramid in DCS:5	(5)
5	a)	protocols used in the computer controlled systems :5	(5)
	b)	Configurations of Data Acquisition System:5	(5)
	c)	supervisory control :5	(5)
6	a)	SCADA block diagram(5),explanation: 5	(10)
	b)	automation pyramid in industrial automation:5	(5)

PART C

Answer any two full questions,each carries 20 marks.

7	a)	hardware elements in high level operator interface in DCS:7,diagrams:3	(10)
	b)	record keeping function available with DCS:5	(5)
	c)	modular packaging approach for providing high level operator interface in DCS:5	(5)
8	a)	Risk: 2.,commonly adapted risk terminologies:6	(8)
	b)	safety life cycle :8 neat schematic:4	(12)
9	a)	Design consideration for operator input used with high level operator interfaces in DCS:10	(10)
	b)	Functions of safety instrumented system:10	(10)
