Shantilal Shah Engineering College – Bhavnagar

Department of Instrumentation & Control Engineering

GTU PAT Examination Syllabus – WINTER (ODD) 2019

Semester: - 7th

Subject Name: - Distributed Control System & SCADA (2171709)

Unit No.	Topic
1	**DCS – Introduction & Development History** Early Computer systems: Direct digital control, Centralized computer system, Distributed control. Hierarchical Control: Hierarchical computer system for a large manufacturing process, overall task, detail task listing, lower level computer task, higher level computer task
2	**DCS-Basic packages** Analog control, direct Digital control, Distributed process control, DCS configurations Local Control Units (Relay rack mounted equipment) :Dedicated card controllers, Unit operations controllers, Multiplexers- Design, system configuration, The control console equipment: - Video display, - key board, - peripheral, devices, Displays: Group displays, Overview displays, Detail displays, Graphic displays, Trend displays, Alarm reporting, generation and acceptance
3	**Software configuration** Operating system configuration, - Controller function configuration, - Algorithm libraries, Process control programming: - Types of program, Features of process control programs, The executive program, Programming language for process control Algorithms- The position algorithm, Velocity algorithm, cascade and ratio control, Feed-forward, Other algorithm like Dead band control, emergency response, error squared