

Shantilal Shah Engineering College

Instrumentation & Control Department

PAT Exam Syllabus summer 2019

Subject Code: 3131704

Subject Name: Digital Electronics

Chapter No.	Topic
1.	BINARY SYSTEM: Digital computer and digital systems, Binary Number, Number base conversion Octal and Hexadecimal Number, complements, Binary Codes, Binary Storage and register, Binary Logic, Integrated Circuit
2.	BOOLEAN ALGEBRA AND LOGIC GATES: Basic Definition, Axiomatic Definition of Boolean Algebra, Basic Theorem and Properties of Boolean Algebra, Minterms And Maxterms, Logic Operations, Digital Logic Gates, IC digital Logic Families
3	SIMPLIFICATION OF BOOLEAN FUNCIONS: Different types, K Map method, Product of sum Simplification, NAND or NOR implementation, Don't Care condition, Tabulation method
4.	COMBINATIONAL LOGIC: Introduction, Design Procedure, adder, subtractor, Code Conversion, Universal Gate
6.	SEQUENTIAL LOGIC: Introduction, Flip-Flops, Triggering of Flip-Flops, Analysis of Clocked Sequential Circuits, State Reduction and Assignment, Flip-Flop Excitation Tables, Design Procedure, Design of Counters, Design with State Equations, The finite state model, Synthesis of synchronous sequential circuits, Serial Binary adder with Moore type FSM, The sequence Detector, Mealy type model, Moore type circuit.