GANPAT UNIVERSITY

U.V. PATEL COLLEGE OF ENGINEERING

Computer Engineering / Information Technology Department

2CEIT601: Theory of Computation

First Internal Exam Syllabus

Unit-1: Review of Mathematical Background

- Sets and simplification of set
- Functions, Type of Functions
- Relations and properties of relations
- Predicate Logics and Propositions Logics

Unit-2: Regular Languages and Finite Automata

- Formal Language and its types
- Introduction of DFA
- Constructions of DFA
- Union, Intersection and Complement of DFA.
- Regular Expression
- Construction of Mealy and Moore Machine
- Conversion From Mealy to Moore Machine and Vice Versa

Unit-3 Non determinism and Kleen's Theorem

- Introduction of NFA
- Conversion from NFA to DFA
- Introduction of Non Deterministic Finite Automata with Null Transitions
- Conversion from Null NFA to NFA
- Regular Expression to Null NFA (using Kleen's Theorem)

Unit-4 Regular and Non Regular Language

- Minimization of Finite Automata (using Partitions Algorithm)

Prof. Ritesh Upadhyay
Prof. Amit Solanki
(Subject Teacher)

Dr. Devang Pandya
Head, IT Dept.

Dr. Paresh Solanki
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