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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech III Year I Semester Supplementary Examinations November-2020

FORMAL LANGUAGES AND AUTOMATA THEORY

(Common to CSE & CSIT)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

- 1 Define Mealy machine and Moore machine. 12M

OR

- 2 Discuss Chomsky's Hierarchy of formal languages. 12M

UNIT-II

- 3 List out the identities of Regular expression. 12M

OR

- 4 Construct an equivalent FA for the given regular expression $(0+1)^*(00+11)(0+1)^*$ 12M

UNIT-III

- 5 Prove that the language $L = \{a^n b^n c^n \mid n \geq 1\}$ is not regular using pumping lemma. 12M

OR

- 6 Explain how equivalence between two FA is verified with an example. 12M

UNIT-IV

- 7 Define push down automata? Explain acceptance of PDA with empty stack. 12M

OR

- 8 Define Instantaneous description (ID) in PDA. 12M

UNIT-V

- 9 Explain Universal turing machine. 12M

OR

- 10 Explain in detail about variations of the TM. 12M

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