CS301 Theory Of Automata – Spring 2020

Mock Examination

Max. Marks:30 Instructors: ShaharBano, Bakhtawar. Time Allowed: 1 hour

( 40minutes to solve +20mins to upload )

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| **Instructions Part** | **Read and follow** |

Kindly mention your roll #, section and instructor name.

Student’s Signature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Section :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Question 1 [2\*10 Marks]** |  |

1. Define what one might mean by properly nested parenthesis structures involving two kinds of parentheses, say () and []. Intuitively, properly nested strings in this situation are ([]), ([[]])[()], but not ([)] or ((]]. Using your definition, give a context-free grammar for generating all properly nested parentheses.

(Hint: Use the grammar of balanced parenthesis)

1. Construct the PDA for accepting all properly nested parentheses.

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| **Question 2 B [2\*5 Marks]** |  |

L = {w|w∈ 0n1n+1 ; n≥0}

1. Give a context free grammar for L.
2. Construct the PDA of the language.

BEST OF LUCK!!!!!!