**SVKM’S NMIMS, School of Technology Management & Engineering | Navi-Mumbai**

**MBA-Tech (A.Y. 2019-20)**

**Term Work 5 (b)**

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| **Course: MBA TECH (COMPUTER ENGINEERING)** | **SEM: IV** |
| **Subject: THEORETICAL COMPUTER SCIENCE** | **Marks: 5** |
| **Date of Exam: 18.03.2020** | **Duration: 1 Hour** |

***Instruction to students:***

1. Answer all questions.

2. Draw DPDA / NPDA and Simulation for the PDA in all questions.

Q.1 Construct a PDA that accepts the language defined by the following regular grammar:

*S* 🡺 0 *A* | 1 *B* | 0

*A* 🡺 *A* 0 | *B*

*B* 🡺 *c* | *d*

Here, *N* = {*S*, *A*, *B*}, T = {0, 1, *c*, *d*}, and *S* is the start symbol. [2 marks]

Q.2 Construct a pushdown automaton to accept the language: [3 marks]

*L* = {*WWR* | *W €* {*a*, *b*}\*, and *WR* is the reverse of *W*}

Show all possible states, transition inputs, and the contents of the stack.