Assignment 15

Automata & Theory of Computation

Student ID: **Name:**

1. Construct an npda that accepts the language generated by a grammar with productions

$$S \rightarrow aSSSab|\lambda.$$

2. Construct a context-free grammar for the language accepted by the npda $M = (\{q_0, q_1\}, \{a, b\}, \{A, z\}, \delta, q_0, z, \{q_1\})$, with transitions

$$\begin{aligned} \delta(q_0,\ a,\ z) &= \{\ (q_0,\ Az)\ \}, \\ \delta(q_0,\ b,\ A) &= \{\ (q_0,\ AA)\ \}, \\ \delta(q_0,\ a,\ A) &= \{\ (q_1,\ \lambda)\ \}. \end{aligned}$$