

Unit 4 PYQ

- 6marks

Construct a DPDA which accepts the following language, (CO4)

$$L = \{wcw^R \mid w \in \{a, b\}^*, \Sigma = \{a, b, c\}\}$$

Design a PDA for the language $L = \{0^n 1^{2n} \mid n > 0\}$ (CO4)

Construct a PDA for $\{a^n b^n \mid n \geq 1\}$. (CO4)

- 10marks

Compare Deterministic and Non deterministic PDA. Is it true that non deterministic PDA is more powerful than deterministic PDA? Justify your answer. (CO4) 10

Compare FM and PDA. Construct a PDA accepting all palindromes over $\{a, b\}$. (CO4) 10

Describe the Definition of Pushdown Automata. Is PDA more powerful than Finite Automata? if Yes than why? also Design PDA for Language $L = \{a^{m+n}b^m c^n \mid m, n > 1\}$ (CO4) 10

Design a PDA for the following CFG : (CO4) 10

$$S \rightarrow \epsilon$$

$$S \rightarrow SS$$

$$S \rightarrow (S)$$

Show the transition relation on string $()()$ for constructed PDA.

Design PDA for Language WcW^R , $W \in (a, b)^*$ (CO4) 10

Compare FM and PDA. Construct a PDA accepting all palindromes over $\{a, b\}$. (CO4) 10