

Department of Computer Science & IT, The Islamia University of Bahawalpur (IUB)

Roll no: _____

Signature: _____

BS (CS) - 7th semester

Subject: Compiler Construction

Time: 15 min.

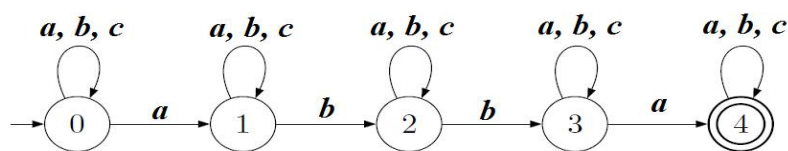
Q1. Encircle the appropriate choice

10 Marks

1. A finite state machine where for each pair of state and input symbol there may be several possible next states
a) DFA b) Regex c) NFA
2. NFA and DFA accepts only
a) natural languages b) regular languages c) non-regular languages
3. Allows a transformation to a new state without consuming any input symbols
a) Epsilon transition b) Transition Function (δ)
4. Concatenates each string in L zero or more times
a) Kleene Closure (L^*) b) Positive Closure (L^+) c) Concatenation ($L1.L2$)
5. This phase analyzes the syntax tree to check program consistency requirements
a) Syntax analysis b) Parsing c) Type checking
6. A Transition Function(δ) has two arguments
a) The state and the input symbol
b) The state and the input word (string)
c) The initial state and the final state

7. Consider the following Finite Automaton A over $\Sigma = \{a, b, c\}$:

(4 Marks)



- Which of the following statements about A is correct?

- (a) The automaton A is a Deterministic Finite Automaton (DFA)
- (b) The automaton A is a Non-Deterministic Finite Automaton (NFA)
- (c) The automaton A is neither NFA nor DFA

- Choose the correct statement

- (a) $bbaacbabac \in L(A)$
- (b) $bbaacbabac \notin L(A)$
- (c) Neither a nor b

- Choose the correct statement

- (a) $bacabca \in L(A)$
- (b) $bacabca \notin L(A)$
- (c) Neither a nor b

- Choose the correct statement

- (a) $\epsilon \in L(A)$
- (b) $\epsilon \notin L(A)$
- (c) Neither a nor b