QUIZIZZ

NAME : _____

CLASS : _____

Formal Language and Automata
20 Questions

DATE : _____

1. Regular languages are recognized by

A Pushdown Automata

B Turing Machine

C Linear Bounded Automata

D Finite Automata

2. Type 2 grammar is also known as

A Regular Grammar

B Recursively Enumerable Grammar

C Context Sensitive Grammar

D Context Free Grammar

3. Is Every NFA has an equivalent DFA.

A No

B Maynot be

C Yes

D May be

4. Is Every DFA has an Equivalent NFA?

A Yes

B No

C May be

D May not be

5. _____ is used to represent regular langugaes.

A Productions

B Set of Rules

C Regular Expression

D Context Free Grammar

6. _____ recognizes context free languages

A Turing Machine

B Finite Automata

C Linear Bounded Automata

D Pushdown Automata

7. ___ data structure is used in PDA to store the input symbols.

A Queue
B List
C Tree
D Stack

8. ___ recognizes recursive languages.

A Turing Machine
B Finite Automata
C Pushdown Automata
D Linear bounded Automata

9. Choose the chomskian hiersrchy of languages.

A $\mathrm{Type\ 3} \subseteq \mathrm{Type2}\ \subseteq \mathrm{Type\ 1} \subseteq \mathrm{Type\ 0}$
B $\mathrm{Type\ 3} \subset \mathrm{Type2}\ \subset \mathrm{Type\ 1} \subset \mathrm{Type\ 0}$
C $\mathrm{Type\ 3} \not\subset \mathrm{Type2}\ \not\subset \mathrm{Type\ 1} \not\subset \mathrm{Type\ 0}$
D $\mathrm{Type\ 3} \supset \mathrm{Type2}\ \supset \mathrm{Type\ 1} \supset \mathrm{Type\ 0}$

10. The input tape in the Turing Machine contains

A Blank Symbols
B Non terminals
C Terminals
D Variables

11. In which direction, the tape head moves in Turing Machine

A Neither left or right
B Only right
C Only left
D Either left or right

12. __ is the symbol that present at the bottom of the stack in PDA.

A Z_0
B Q
C S
D X

13. If the turing machine enters into final state and halt while reading a string, then the string is ___

A Rejected
B Accepted
C neither accept or reject
D Either accept or reject

14. If the turing machine enters into infinite loop without halting while reading a strinng, then the string is ___

A accepted

B rejected

C neither accept or reject

D either accept or reject

15. Condition for CFG to be in Chomsky Normal Form (CNF)

A $\mathrm{NT} \rightarrow \mathrm{T}.\mathrm{T} \mid \mathrm{NT}.\mathrm{NT} \mid \in$

B $\mathrm{NT} \rightarrow \mathrm{T} \mid \mathrm{NT}.\mathrm{NT} \mid \in$

C $\mathrm{NT} \rightarrow \mathrm{T}.\mathrm{NT} \mid \mathrm{NT}.\mathrm{T} \mid \in$

D $\mathrm{NT} \rightarrow \mathrm{NT} \mid \mathrm{NT}.\mathrm{NT} \mid \mathrm{T}$

16. Condition for CFG to be in Greibach Normal Form.

A $\mathrm{NT} \rightarrow \mathrm{T} \mid \mathrm{T}.\mathrm{NT}_1\mathrm{NT}_2 \ldots . \mathrm{NT}_\mathrm{n} \mid \in$

B $\mathrm{NT} \rightarrow \mathrm{T} \mid \mathrm{NT} \mid \in$

C $\mathrm{NT} \rightarrow \mathrm{T}.\mathrm{NT}.\mathrm{NT} \mid \mathrm{NT}.\mathrm{NT} \mid \in$

D $\mathrm{NT} \rightarrow \mathrm{T} \mid \mathrm{T}.\mathrm{NT} \mid \in$

17. Which of the following is a Unit Production?

A $\mathrm{T} \rightarrow \mathrm{NT}$

B $\mathrm{NT} \rightarrow \in$

C $\mathrm{NT} \rightarrow \mathrm{NT}$

D $\mathrm{NT} \rightarrow \mathrm{T}$

18. Do NFA can be directly minimized?

A Yes

B May be

C No

D Maynot be

19. Which of the following language is not recognized by PDA?

A $\mathrm{L} = \{\mathrm{a}^\mathrm{n}\mathrm{b}^\mathrm{n},\ \mathrm{n} \geq 0\}$

B $\mathrm{L} = \{\mathrm{a}^\mathrm{n}\mathrm{b}^\mathrm{n}\mathrm{c}^\mathrm{m}\mathrm{d}^\mathrm{n},\ \mathrm{n}, \mathrm{m} \geq 0\}$

C $\mathrm{L} = \left\{\mathrm{a}^\mathrm{n}\mathrm{b}^{2\mathrm{n}},\ \mathrm{n} \geq 0\right\}$

D $\mathrm{L} = \{\mathrm{a}^\mathrm{n}\mathrm{b}^\mathrm{n}\mathrm{c}^\mathrm{n}\mathrm{d}^\mathrm{n},\ \mathrm{n} \geq 0\}$

20. Which of the following has left recursion?

A $\mathrm{E} \rightarrow \mathrm{a}$

B $\mathrm{E} \rightarrow \mathrm{T} + \mathrm{F}$

C $\mathrm{F} \rightarrow \mathrm{id}$

D $\mathrm{E} \rightarrow \mathrm{E} + \mathrm{T}$

Answer Key

1.d	2.d	3.c	4.b
5.c	6.d	7.d	8.a
9.b	10.a	11.d	12.a
13.b	14.b	15.b	16.a
17.c	18.c	19.b	20.d