Started on	Sunday, 28 August 2022, 9:00 PM
State	Finished
Completed on	Sunday, 28 August 2022, 9:09 PM
Time taken	9 mins 40 secs
Marks	6.00/13.00
Grade	**4.62** out of 10.00 (**46**%)

Question **1**

Incorrect

Mark 0.00 out of 1.00

If $h(L)$ is regular for some homomorphism h then, L must be regular.

Select one:

- True ✖
- False

The correct answer is 'False'.

Question **2**

Incorrect

Mark 0.00 out of 1.00

How many one-state finite automata over the alphabet $\{0, 1\}$ are there no two of which are isomorphic?

Answer: 9 ✖

The correct answer is: 4

Question **3**

Incorrect

Mark 0.00 out of 1.00

State equivalence is not a transitive relation.

Select one:

- True ✖
- False

The correct answer is 'False'.

Question **4**

Incorrect

Mark 0.00 out of 1.00

Which of the following order of quantifiers describe the contrapositive of pumping lemma?

- a. $\forall n \ \exists w \ \forall w = xyz \ \exists i \geq 0$
- b. $\exists n \ \forall w \ \exists w = xyz \ \forall i \geq 0$ ✖

Your answer is incorrect.

The correct answer is:
$\forall n \ \exists w \ \forall w = xyz \ \exists i \geq 0$

Question **5**

Correct

Mark 1.00 out of 1.00

Distinguishability of states is not an equivalence relation.

Select one:

- True ✔
- False

The correct answer is 'True'.

Question **6**

Correct

Mark 1.00 out of 1.00

The language $L = \{a^m b^n c^{m+n} : m, n \geq 0\}$ is regular.

Select one:

- True
- False ✔

The correct answer is 'False'.

Question **7**

Correct

Mark 1.00 out of 1.00

Suppose, we have been given that $L_1 \cup L_2$ and L_1 are regular, then we can conclude that L_2 must be regular.

Select one:

- True
- False ✔

The correct answer is 'False'.

Question **8**

Incorrect

Mark 0.00 out of 1.00

Minimum number of states (excluding the dead state) in a **finite automaton** to accept strings that begins with b and ends with aa is:

Answer: 3 ✖

The correct answer is: 4

Question **9**

Correct

Mark 1.00 out of 1.00

There exists an algorithm for determining whether a regular language is finite.

Select one:

- True ✔
- False

The correct answer is 'True'.

Question **10**

Complete

Mark 0.00 out of 2.00

Noam Chomsky (C) and Marcel-Paul Schutzenberger (S) were playing a game:

C: Consider $L=\{bba(ba)^{n}a^{n-1}\}$.

S: Okay, I choose k as the pumping constant.

C: Take the string $w=?$

S: Okay, let me partition $w=xyz$ such that $|xy| \leq k$ and $y \neq \lambda$.

C: I choose $i=?$, and see, $xy^{i}z \notin L$. Yay! I win! 😃

Help Chomsky win by choosing proper w and i.

w = 2

i = 1

Comment:

Question **11**

Correct

Mark 1.00 out of 1.00

Two ..... states can be merged.

- a. distinguishable
- b. indistinguishable ✔

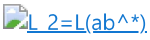
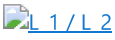
Your answer is correct.

The correct answer is:
indistinguishable

Question **12**

Correct

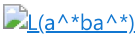
Mark 1.00 out of 1.00

If  and  then  is

where 

- a. 
- b. 
- c.  ✔

Your answer is correct.

The correct answer is:


◄ Quiz 1 (re-exam)

Jump to...

Quiz 3 ►