Started on	Monday, 31 October 2022, 9:00 PM
State	Finished
Completed on	Monday, 31 October 2022, 9:10 PM
Time taken	9 mins 38 secs
Marks	11.00/13.00
Grade	**8.46** out of 10.00 (**85**%)

Question **1**

Correct

Mark 1.00 out of 1.00

There does not exist any language for which the Turing machine construction is not possible.

Select one:

- True
- False ✔

The correct answer is 'False'.

Question **2**

Correct

Mark 1.00 out of 1.00

Turing Machine is the machine format of __ language.

Answer: Recursive Enumerable ✔

The correct answer is: type 0

Question **3**

Correct

Mark 1.00 out of 1.00

Linear bounded automata and two-way finite automata are equivalent in terms of the language they accept.

Select one:

- True
- False ✔

The correct answer is 'False'.

Question **4**

Correct

Mark 1.00 out of 1.00

Let L be any regular language, and $DTIME(T(n))$ denote the set of languages which are accepted by deterministic multitape Turing Machine in time $T(n)$.

Which of the following is true about the relationship between L and $DTIME(T(n))$?

- a. No relation is known.
- b. $DTIME(T(n)) \subseteq L$
- c. $L \subseteq DTIME(T(n))$ ✔

Your answer is correct.

The correct answer is:
$L \subseteq DTIME(T(n))$

Question **5**

Correct

Mark 1.00 out of 1.00

Which of the following language are accepted by Turing Machine?

$L_1 = \{a^n b^n c^n : n > 0\}$

$L_2 = \{a_1^n a_2^n \cdots a_k^n : n > 0\}$

L_3 ={the set of all palindromes over any arbitrary alphabet}

- a. All of L_1, L_2 and L_3 ✔
- b. Only L_1 and L_3

Your answer is correct.

The correct answer is:
All of L_1,L_2 and L_3

Question **6**

Incorrect

Mark 0.00 out of 1.00

Which is NOT true for instantaneous description (ID) of a Turing Machine?

- a. It remembers the cell currently being scanned by the read-write head ✖
- b. The content of the cell on which the read-write head previously be in
- c. It remembers the state of the machine

Your answer is incorrect.

The correct answer is:
The content of the cell on which the read-write head previously be in

Question **7**

Correct

Mark 1.00 out of 1.00

The statement "A Turing Machine can't solve a halting problem" is

a. False

b. True ✔

c. Still an open problem

Your answer is correct.

The correct answer is:
True

Question **8**

Correct

Mark 1.00 out of 1.00

The multitape Turing machine can recognize a superset of recursively enumerable languages.

Select one:

True

False ✔

The correct answer is 'False'.

Question **9**

Incorrect

Mark 0.00 out of 1.00

If  is recursively enumerable language and  , then a Turing machine for  must halt at some non-accepting state on  .

Select one:

True ✖

False

The correct answer is 'False'.

Question **10**

Correct

Mark 1.00 out of 1.00

Which of the following languages are accepted by Turing Machine?

a. L=\{a^nc^mb^n:m,n>0\}

b. L=\{a^nb^nc^n:n>0\}

c. All of the above ✔

d. L=\{a^nb^nc^i:n,i >0\}

Your answer is correct.

The correct answer is:
All of the above

Question **11**

Correct

Mark 1.00 out of 1.00

Choose the correct one:

a. RE \subseteq CFL \subseteq CSL \subseteq Recursive \subseteq REG

b. REG \subseteq CFL \subseteq CSL \subseteq Recursive \subseteq RE ✔

c. REG \subseteq CSL \subseteq CFL \subseteq Recursive \subseteq RE

d. REG \subseteq CFL \subseteq CSL \subseteq RE \subseteq Recursive

Your answer is correct.

The correct answer is:
REG \subseteq CFL \subseteq CSL \subseteq Recursive \subseteq RE

Question **12**

Correct

Mark 1.00 out of 1.00

Linear bounded automata accepts .... languages.

- a. Regular
- b. Recursively enumerable
- c. Context-sensitive ✔
- d. Context-free

Your answer is correct.

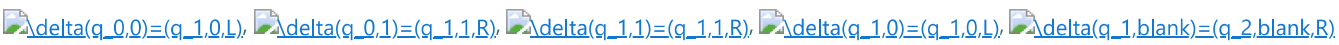
The correct answer is:
Context-sensitive

Question **13**

Correct

Mark 1.00 out of 1.00

On which of the following inputs the Turing machine with transitions



does not halt?

- a. 01
- b. 11
- c. Always halts.
- d. 10 ✔

Your answer is correct.

The correct answer is:
10

◄ Quiz 4

Jump to...

Quiz 6 ►