

VIRTUAL UNIVERSITY OF PAKISTAN

A Good Education is a Foundation For a Better Future

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TEAM HADI(VU LAHORE)

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WARNING: Team HADI is not responsible for any mistake or wrong answer. All students reading and using this document may check and confirm the answers at their own.



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Best of luck!



Question # 1 of 30 (Start time: 11:29:54 AM, 30 December 2020)

Total Marks: 1

If L_1 and L_2 are regular languages, $L_1 \cap (L_2' \cup L_1')$ will be

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Select the correct option

<input checked="" type="radio"/>	regular	//
<input type="radio"/>	non regular	//
<input type="radio"/>	may be regular	//
<input type="radio"/>	none of the mentioned	//

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Question # 4 of 30 (Start time: 11:34:05 AM, 30 December 2020)

Total Marks: 1

In Mealy machine the output depends on _____

Select the correct option

<input type="radio"/>	Only present state	//
<input checked="" type="radio"/>	Present state and Present input	//
<input type="radio"/>	Nothing	//
<input type="radio"/>	Type of input	

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Question # 21 of 30 (Start time: 11:54:22 AM, 30 December 2020)

Total Marks: 1

There is no question of accepting any language in:

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Select the correct option

<input type="radio"/>	FA	/
<input checked="" type="radio"/>	Moore machine	/
<input type="radio"/>	Melay machine	/
<input type="radio"/>	Both moore and melay machine	/

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Question # 25 of 30 (Start time: 12:00:13 PM, 30 December 2020)

Total Marks: 1

The state where there is no way to leave after entry is called _____.

Select the correct option

<input checked="" type="radio"/>	Davey John locker	//
<input type="radio"/>	initial state	//
<input type="radio"/>	final state	
<input type="radio"/>	non-final state	

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Question # 8 of 30 (Start time: 12:29:42 PM, 30 December 2020)

Total Marks: 1

FA corresponding to an NFA can be built by introducing an empty state for a letter having

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Select the correct option

<input checked="" type="radio"/>	no transition at certain state
<input type="radio"/>	one transition at certain state
<input type="radio"/>	two transitions at certain state
<input type="radio"/>	more than two transitions at certain state

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Question # 23 of 30 (Start time: 11:57:00 AM, 30 December 2020)

Total Marks: 1

Which of the following diagrams expresses languages more simply?

Select the correct option

<input type="radio"/>	FA
<input type="radio"/>	NFA
<input type="radio"/>	TG
<input checked="" type="radio"/>	GTG

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Question # 28 of 30 (Start time: 12:03:39 PM, 30 December 2020)

Total Marks: 1

Automata is the plural of _____.

Select the correct option

<input type="radio"/>	automate	
<input checked="" type="radio"/>	automaton	
<input type="radio"/>	automation	
<input type="radio"/>	automatic	

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Question # 5 of 30 (Start time: 11:35:34 AM, 30 December 2020)

Total Marks: 1

If A and B are regular languages, $!(A \cup B)$ is:

Select the correct option

<input checked="" type="radio"/>	regular	/
<input type="radio"/>	non regular	/
<input type="radio"/>	may be regular	
<input type="radio"/>	none of the mentioned	

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Question # 12 of 30 (Start time: 11:44:27 AM, 30 December 2020)

Total Marks: 1

In NFA having no transition at certain state, FA can be built by introducing:

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Select the correct option

<input checked="" type="radio"/>	Empty state
<input type="radio"/>	Combination of states
<input type="radio"/>	Initial state
<input type="radio"/>	Final state

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Question # 2 of 30 (Start time: 01:52:39 PM, 30 December 2020)

Total Marks: 1

If $S = \{x\}$, then S^* will be _____.

Select the correct option

- | | | |
|----------------------------------|--|----|
| <input type="radio"/> | $\{\hat{x}, xxx, xxx, xxx, \dots\}$ | // |
| <input checked="" type="radio"/> | $\{\hat{x}, xx, xxx, xxx, \dots\}$ | // |
| <input type="radio"/> | $\{\hat{x}, xxx, xxx, xxx, xxx, \dots\}$ | // |
| <input type="radio"/> | $\{\hat{x}, xx, xxx, xxx, xxx, xxx, \dots\}$ | // |

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Question # 14 of 30 (Start time: 11:46:59 AM, 30 December 2020)

Total Marks: 1

Considering FA1 and FA2 having 2 states each. Now FA1+FA2 can have maximum _____ number of states.

Select the correct option

<input type="radio"/>	2	
<input type="radio"/>	3	
<input type="radio"/>	more than 3	
<input checked="" type="radio"/>	None of the given options	

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Question # 1 of 30 (Start time: 01:51:55 PM, 30 December 2020)

Total Marks: 1

In an FA, when there is no path starting from initial state and ending in final state then that FA_____.

Select the correct option

<input type="radio"/>	accept null string	//
<input checked="" type="radio"/>	accept all strings	//
<input type="radio"/>	accept all non empty strings	//
<input type="radio"/>	does not accept any string	//

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Question # 2 of 30 (Start time: 12:23:51 PM, 30 December 2020)

Total Marks: 1

According to theory of automata there are _____ types of languages.

Select the correct option

<input type="radio"/>	One	//
<input checked="" type="radio"/>	Two	//
<input type="radio"/>	Three	//
<input type="radio"/>	Four	//

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Question # 25 of 30 (Start time: 12:47:10 PM, 30 December 2020)

Total Marks: 1

In Moore machine, if the length of input string is 9, then the length of output string will be:

Select the correct option

<input type="radio"/>	7
<input type="radio"/>	8
<input type="radio"/>	9
<input checked="" type="radio"/>	10

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Question # 23 of 30 (Start time: 12:45:41 PM, 30 December 2020)

Total Marks: 1

When ODD language is expressed by an FA, then it will have minimum _____ states.

Select the correct option

<input checked="" type="radio"/>	one
<input type="radio"/>	two
<input type="radio"/>	three
<input type="radio"/>	four

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Question # 30 of 30 (Start time: 12:05:52 PM, 30 December 2020)

Total Marks: 1

$[(a + b)(a + b)]^*$, given RE cannot generate the string _____.

Select the correct option

<input type="radio"/>	abbaabab	//
<input type="radio"/>	abbbbaa	//
<input checked="" type="radio"/>	bbbbbbb	
<input type="radio"/>	abbbaaaaa	

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Question # 22 of 30 (Start time: 02:07:50 PM, 30 December 2020)

Total Marks: 1

Which of the following statement is true about GTG?

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Select the correct option

- | | | |
|----------------------------------|---|----|
| <input type="radio"/> | Transitions are based on input letters | // |
| <input type="radio"/> | Transitions are based on specified substrings | // |
| <input checked="" type="radio"/> | Transitions are based on regular expressions | |
| <input type="radio"/> | Transitions are based on alphabet set | |

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Question # 5 of 30 (Start time: 01:54:20 PM, 30 December 2020)

Total Marks: 1

Every _____ is a _____ as well, but the converse may not be true.

Select the correct option

<input type="radio"/>	TG, FA	//
<input checked="" type="radio"/>	FA, TG	//
<input type="radio"/>	TG, GTG	//
<input type="radio"/>	FA,GTG	//

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Question # 18 of 30 (Start time: 12:40:12 PM, 30 December 2020)

Total Marks: 1

Which one of the following machine is represented as a pictorial representation with states and directed edges labeled by an input letter along with an output character?

Select the correct option

<input type="radio"/>	Moore machine
<input checked="" type="radio"/>	Mealy machine
<input type="radio"/>	Finite state machine
<input type="radio"/>	Deterministic finite state machine

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Question # 24 of 30 (Start time: 02:09:14 PM, 30 December 2020)

Total Marks: 1

The recursive method for defining a language has _____ steps.

Select the correct option

- | | | |
|----------------------------------|-------|----|
| <input type="radio"/> | one | // |
| <input type="radio"/> | two | // |
| <input checked="" type="radio"/> | three | // |
| <input type="radio"/> | four | |

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Question # 6 of 30 (Start time: 01:55:05 PM, 30 December 2020)

Total Marks: 1

Consider the following RE:

 $a(a + b)b^*$

All of the following words are accepted except _____.

Select the correct option

<input type="radio"/>	aab	
<input type="radio"/>	abb	
<input checked="" type="radio"/>	aa	
<input type="radio"/>	aba	

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Question # 29 of 30 (Start time: 12:05:01 PM, 30 December 2020)

Total Marks: 1

Which of the following regular expressions represent same language?

1. $(a+ab)^*$
2. $(ba+a)^*$
3. $a^*(aa^*b)^*$
4. $(a^*b^*)^*$

Select the correct option

<input checked="" type="radio"/>	1 and 2
<input type="radio"/>	1 and 3
<input type="radio"/>	3 and 4
<input type="radio"/>	1 and 4

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Question # 10 of 30 (Start time: 01:57:43 PM, 30 December 2020)

Total Marks: 1

For every three regular expressions R, S, and T, the languages denoted by $R(S \cup T)$ and $(RS) \cup (RT)$ are the _____.

Select the correct option

<input checked="" type="radio"/>	Same
<input type="radio"/>	Different
<input type="radio"/>	$R(S \cup T)$ is Greater
<input type="radio"/>	None of the given options

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Question # 27 of 30 (Start time: 02:10:29 PM, 30 December 2020)

Total Marks: 1

Alphabet S = {a, bc, cc} has _____ number of letters.

Select the correct option

<input type="radio"/>	One	//
<input type="radio"/>	Two	//
<input checked="" type="radio"/>	Three	//
<input type="radio"/>	Four	//

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Question # 22 of 30 (Start time: 11:56:00 AM, 30 December 2020)

Total Marks: 1

An _____ can be considered to be an intermediate structure between Finite automaton and Transition Graph.

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Select the correct option

<input type="radio"/>	RE
<input type="radio"/>	GTG
<input checked="" type="radio"/>	NFA
<input type="radio"/>	None of the given options

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Question # 2 of 30 (Start time: 11:31:21 AM, 30 December 2020)

Total Marks: 1

Two FAs are said to be equivalent, if they _____.

Select the correct option

- | | | |
|----------------------------------|---------------------------|----|
| <input type="radio"/> | accept null string | // |
| <input checked="" type="radio"/> | accept same language | // |
| <input type="radio"/> | accept different language | // |
| <input type="radio"/> | none of the given options | |

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Question # 20 of 30 (Start time: 12:42:40 PM, 30 December 2020)

Total Marks: 1

There may be more than one transition for a certain letter on a state in:

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Select the correct option

<input checked="" type="radio"/>	Finite Automata	//
<input type="radio"/>	Non-Deterministic Finite Automata	//
<input type="radio"/>	Transition Table	//
<input type="radio"/>	Moore Machine	//

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Question # 7 of 30 (Start time: 01:55:32 PM, 30 December 2020)

Total Marks: 1

----- can also help in proving Kleene Theorem III.

Select the correct option

<input checked="" type="radio"/>	NFA	/
<input type="radio"/>	PDA	/
<input type="radio"/>	Moore machine	/
<input type="radio"/>	Melay machine	/

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Question # 21 of 30 (Start time: 02:07:18 PM, 30 December 2020)

Total Marks: 1

Kleene's Theorem Part II expresses the relationship between _____.

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Select the correct option

<input type="radio"/>	FA and TG	//
<input checked="" type="radio"/>	TG and RE	//
<input type="radio"/>	RE and FA	
<input type="radio"/>	FA and RE	

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Question # 14 of 30 (Start time: 02:01:23 PM, 30 December 2020)

Total Marks: 1

When ODD language is expressed by an FA, then it will have minimum _____ states.

Select the correct option

<input checked="" type="radio"/>	one
<input type="radio"/>	two
<input type="radio"/>	three
<input type="radio"/>	four

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Question # 12 of 30 (Start time: 01:59:05 PM, 30 December 2020)

Total Marks: 1

FA corresponding to an NFA can be built by introducing an empty state for a letter having

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Select the correct option

<input checked="" type="radio"/>	no transition at certain state	//
<input type="radio"/>	one transition at certain state	//
<input type="radio"/>	two transitions at certain state	//
<input type="radio"/>	more than two transitions at certain state	//

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Question # 26 of 30 (Start time: 12:48:01 PM, 30 December 2020)

Total Marks: 1

Let L be the language of all strings, defined over $\Sigma = \{0, 1\}$, ending in 10. Which of the following strings are distinguishable with respect to L with z being 0?

Select the correct option

<input checked="" type="radio"/>	111, 101	//
<input type="radio"/>	001, 101	//
<input type="radio"/>	111, 111	//
<input type="radio"/>	010, 101	

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Question # 3 of 30 (Start time: 12:24:29 PM, 30 December 2020)

Total Marks: 1

FA is also called

Select the correct option

<input type="radio"/>	TG
<input type="radio"/>	GTG
<input type="radio"/>	NFA
<input checked="" type="radio"/>	DFA

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Question # 13 of 30 (Start time: 11:45:49 AM, 30 December 2020)

Total Marks: 1

If two RE's generate same language then these RE's are called _____.

Select the correct option

<input type="radio"/>	Same RE	//
<input type="radio"/>	Equal RE	//
<input type="radio"/>	Similar RE	
<input checked="" type="radio"/>	Equivalent RE	

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Question # 24 of 30 (Start time: 11:59:08 AM, 30 December 2020)

Total Marks: 1

We cannot construct an NFA for the language of _____ defined over alphabet set {a,b}.

Select the correct option

<input type="radio"/>	Even even
<input type="radio"/>	odd
<input checked="" type="radio"/>	Palindromes
<input type="radio"/>	Integers

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Question # 18 of 30 (Start time: 11:52:03 AM, 30 December 2020)

Total Marks: 1

Kleene's Theorem Part III expresses the relationship between _____.

Select the correct option

<input type="radio"/>	FA and TG	//
<input type="radio"/>	TG and RE	//
<input checked="" type="radio"/>	RE and FA	
<input type="radio"/>	FA and RE	

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Question # 1 of 30 (Start time: 12:22:39 PM, 30 December 2020)

Total Marks: 1

Let FA3 be an FA corresponding to FA1FA2, then the initial state of FA3 must correspond to the initial state of

Select the correct option

<input checked="" type="radio"/>	FA1 only	/
<input type="radio"/>	FA2 only	/
<input type="radio"/>	FA1 or FA2	/
<input type="radio"/>	FA1 and FA2	/

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Question # 20 of 30 (Start time: 11:53:58 AM, 30 December 2020)

Total Marks: 1

Every FA should be _____.

Select the correct option

<input checked="" type="radio"/>	deterministic	//
<input type="radio"/>	non-deterministic	//
<input type="radio"/>	deterministic and non-deterministic	//
<input type="radio"/>	not depends on language	

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