

Question No : 1 of 26

Marks: 1 (Budgeted Time 1 Min)

Which statement is true?

Answer (Please select your correct option)

A letter is always a combination of symbols

A letter may consist of one symbol

There is no difference between symbol and letter

Letters and symbols are the same thing

Made By: Waqar Siddhu

Question No : 2 of 26

Marks: 1 (Budgeted Time 1 Min)

If $\Sigma = \{ab, bb\}$, then Σ^* will not contain

Answer (Please select your correct option)

abbbab

bbba

bbbbab

ababbb

Made By: Waqar Siddhu

Question No : 3 of 26

Marks: 1 (Budgeted Time 1 Min)

Chose the correct word produced by RE (a + b)* ab

Answer (Please select your correct option)

abb

abab

bbbb

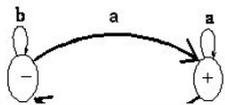
aaaa

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Question No : 4 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given FA can be expressed by



Answer (Please select your correct option)

(a + b)*a

(a + b)*b

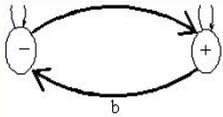
a (a + b)*

b (a + b)*

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Question No : 4 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

$(a + b) * a$

$(a + b) * b$

$a (a + b) *$

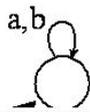
$b (a + b) *$

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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given FA accepts _____ language.



Answer (Please select your correct option)

Finite

Infinite

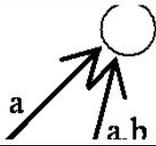
No

All

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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

Finite

Infinite

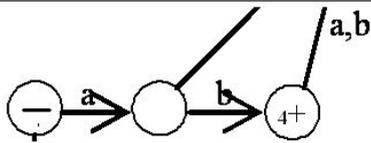
No

All

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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



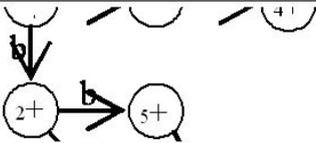
Answer (Please select your correct option)

- Finite
- Infinite
- No
- All

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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



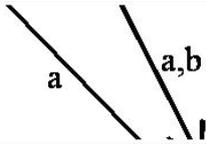
Answer (Please select your correct option)

- Finite
- Infinite
- No
- All

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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

Finite

Infinite

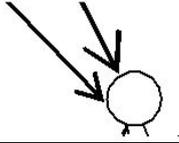
No

All

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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

Finite

Infinite

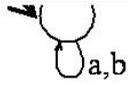
No

All

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Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

Finite

Infinite

No

All

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Question No : 6 of 26

Marks: 1 (Budgeted Time 1 Min)

According to 1st part of the Kleene's theorem, if a language can be accepted by an FA then it can be accepted by a _____ as well

Answer (Please select your correct option)

FA

CFG

GTG

TG

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Question No : 7 of 26

Marks: 1 (Budgeted Time 1 Min)

"One language can be expressed by _____ GTG".

Answer (Please select your correct option)

only one

only two

only three

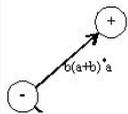
more than one

Made By: Waqar Siddhu

Question No : 8 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given GTG accepts the language in which strings



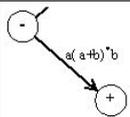
Answer (Please select your correct option)

- Begins and ends with different letters
- Begins and ends with same letters
- Have length greater than 1
- Begins with same letters

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Question No : 8 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

Begins and ends with different letters

Begins and ends with same letters

Have length greater than 1

Begins with same letters

Made By: Waqar Siddhu

Question No : 9 of 26

Marks: 1 (Budgeted Time 1 Min)

In GTG, if a state has more than one incoming transitions from a state. Then all those incoming transitions can be reduced to one transition using _____ sign

Answer (Please select your correct option)

-
- +
- *
- ()

Made By: Waqar Siddhu

Question No : 10 of 26

Marks: 1 (Budgeted Time 1 Min)

If a TG has more than one start states, then we can make a single start state by introducing a new state and connecting it with all the previously existing start states by using _____.

Answer (Please select your correct option)

Any Infinite string

Single letter string

Null String

Any finite string

Made By: Waqar Siddhu

Question No : 11 of 26

Marks: 1 (Budgeted Time 1 Min)

If in a NFA, \wedge is allowed to be a label of an edge then that NFA is called _____.

Answer (Please select your correct option)

TG

RE

NFA with null string

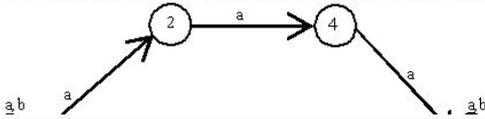
RE

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Question No : 12 of 26

Marks: 1 (Budgeted Time 1 Min)

Show that any language that can be accepted by a Transition Graph (TG) can also be accepted by another TG with an even number of states.



Answer (Please select your correct option)

bababa

ababab

aaaab

bbaabb

Made By: Waqar Siddhu

Question No : 12 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

- bababa
- ababab
- aaaab
- bbaabb

Made By: Waqar Siddhu

Question No : 12 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

bababa

ababab

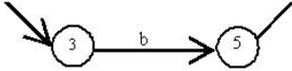
aaaab

bbaabb

Made By: Waqar Siddhu

Question No : 12 of 26

Marks: 1 (Budgeted Time 1 Min)



Above given TG accepts the _____ string.

Answer (Please select your correct option)

bababa

ababab

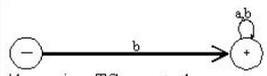
aaaab

bbaabb

Made By: Waqar Siddhu

Question No : 13 of 26

Marks: 1 (Budgeted Time 1 Min)



Above given TG accepts the _____ string.

Answer (Please select your correct option)

abab

aaaa

bbbb

aa

Made By: Waqar Siddhu

Question No : 14 of 26

Marks: 1 (Budgeted Time 1 Min)

If we want to make a Moore machine equivalent to Mealy machine then _____

Answer (Please select your correct option)

We should ignore the extra character printed by the Moore machine.

We should ignore the extra character printed by the Mealy machine.

We will make the initial state as a no carry state.

We should not ignore the extra character printed by the Moore machine.

Made By: Waqar Siddhu

Question No : 15 of 26

Marks: 1 (Budgeted Time 1 Min)

Two machines are said to be equivalent if they print the _____ output string when same input string is run on them.

Answer (Please select your correct option)

same

different

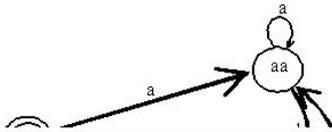
inverse

null

Made By: Waqar Siddhu

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

$a + b + (a+b)*(ab+ba+bb)$

$\Delta + a + b + (a+b)*(ab+ba+bb)*$

$(a+b)*(ab+ba+bb)*$

$\Delta + a + b + (a+b)*(ab+ba+bb)$

Made By: Waqar Siddhu

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

$a + b + (a+b)^*(ab+ba+bb)$

$\Delta + a + b + (a+b)^*(ab+ba+bb)^*$

$(a+b)^*(ab+ba+bb)^*$

$\Delta + a + b + (a+b)^*(ab+ba+bb)$

Made By: Waqar Siddhu

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

$a + b + (a+b)^*(ab+ba+bb)$

$\Lambda + a + b + (a+b)^*(ab+ba+bb)^*$

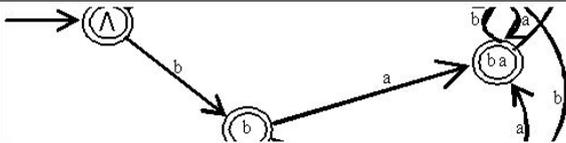
$(a+b)^*(ab+ba+bb)^*$

$\Lambda + a + b + (a+b)^*(ab+ba+bb)$

Made By: Waqar Siddhu

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

$a + b + (a+b)^*(ab+ba+bb)$

$\Lambda + a + b + (a+b)^*(ab+ba+bb)^*$

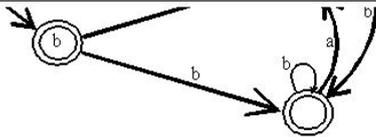
$(a+b)^*(ab+ba+bb)^*$

$\Lambda + a + b + (a+b)^*(ab+ba+bb)$

Made By: Waqar Siddhu

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

$a + b + (a+b)^*(ab+ba+bb)$

$\Delta + a + b + (a+b)^*(ab+ba+bb)^*$

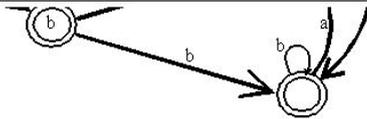
$(a+b)^*(ab+ba+bb)^*$

$\Delta + a + b + (a+b)^*(ab+ba+bb)$

Made By: Waqar Siddhu

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Above given FA has _____ RE.

Answer (Please select your correct option)

$a + b + (a+b)^*(ab+ba+bb)$

$\Lambda + a + b + (a+b)^*(ab+ba+bb)^*$

$(a+b)^*(ab+ba+bb)^*$

$\Lambda + a + b + (a+b)^*(ab+ba+bb)$

Made By: Waqar Siddhu

Question No : 17 of 26

Marks: 1 (Budgeted Time 1 Min)

The length of output string in case of _____ is one more than the length of corresponding input string.

Answer (Please select your correct option)

Moore machine

Mealy machine

Incremental machine

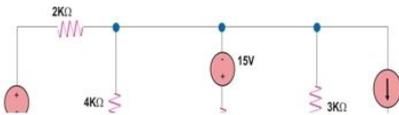
Adding Machine

Made By: Waqar Siddhu

Question No : 22 of 26

Marks: 2 (Budgeted Time 4 Min)

How many voltage sources and current sources are there in the given circuit?



Answer (Please [click here](#) to Add Answer)

Rich text editor toolbar with icons for undo, redo, bold, italic, underline, text color, background color, bulleted list, numbered list, link, unlink, and a 100% zoom level.

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Question No : 18 of 26

Marks: 1 (Budgeted Time 1 Min)

Λ is not a valid transition in _____

Answer (Please select your correct option)

TG

GTG

NFA

RE

Made By: Waqar Siddhu

Question No : 19 of 26

Marks: 1 (Budgeted Time 1 Min)

Dead states are also called _____.

Answer (Please select your correct option)

John Davey Lockers

Davey John Lockers

Mutex Lockers

Semaphores

Made By: Waqar Siddhu

Question No : 20 of 26

Marks: 1 (Budgeted Time 1 Min)

Language of all strings whose length is odd and number of y's is even defined over alphabet set $\Sigma = \{x, y\}$. _____ will be accepted by the given language.

Answer (Please select your correct option)

xxxxyyyxx

xxxxyyyxy

xxxxyyyxx

xxxxyyy

Made By: Waqar Siddhu

Question No : 21 of 26

Marks: 2 (Budgeted Time 4 Min)

If $r_1 = (aa + bb)$ and $r_2 = (a + b)$ then

what language will be accepted by $r_1 r_2$

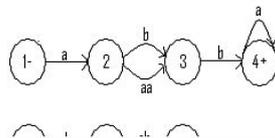
Answer ([Please click here to Add Answer](#))

Normal Arial 12 B I U

Made By: Waqar Siddhu

Question No : 22 of 26

Marks: 2 (Budgeted Time 4 Min)



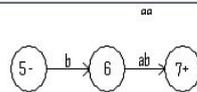
Answer ([Please click here to Add Answer](#))

Rich text editor toolbar with icons for undo, redo, bold, italic, underline, link, unlink, list, and table. It also includes a font size dropdown set to 12 and a zoom level dropdown set to 100%.

Made By: Waqar Siddhu

Question No : 22 of 26

Marks: 2 (Budgeted Time 4 Min)



Using Kleene's theorem, modify the above transition graph to have one initial and final state each.

Answer ([Please click here to Add Answer](#))

Rich text editor toolbar with icons for undo, redo, bold, italic, underline, link, unlink, list, and other editing functions. The font size is set to 12 and the font style is Arial.

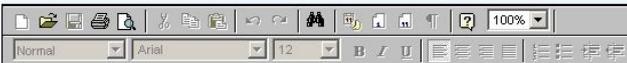
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Question No : 23 of 26

Marks: 3 (Budgeted Time 6 Min)

Write the recursive definition of the following language.
RE = (aab)*(bb)*

Answer ([Please click here to Add Answer](#))

A rich text editor toolbar with various icons for text formatting and editing. The toolbar includes icons for bold, italic, underline, strikethrough, text color, background color, bulleted list, numbered list, link, unlink, indent, outdent, and a search icon. The font style is set to 'Arial', the font size is '12', and the zoom level is '100%'.

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Question No : 24 of 26

Marks: 3 (Budgeted Time 6 Min)

Differentiate between Moore and Mealy machines by mentioning two differences and one similarity.

Answer ([Please click here to Add Answer](#))

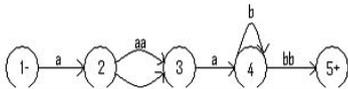
Normal Arial 12 B I U

Made By: Waqar Siddhu

Question No : 25 of 26

Marks: 5 (Budgeted Time 10 Min)

According to Kleene's theorem, convert (step by step) the given transition graph into regular expression.



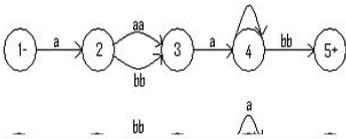
Answer ([Please click here to Add Answer](#))

Rich text editor toolbar with icons for undo, redo, bold, italic, underline, text color, background color, bulleted list, numbered list, link, unlink, and a 100% zoom level.

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Question No : 25 of 26

Marks: 5 (Budgeted Time 10 Min)



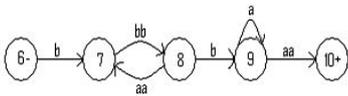
Answer ([Please click here to Add Answer](#))

Rich text editor toolbar with icons for undo, redo, bold, italic, underline, link, unlink, list, and other editing functions. The font size is set to 12 and the font style is Arial.

Made By: Waqar Siddhu

Question No : 25 of 26

Marks: 5 (Budgeted Time 10 Min)



Answer ([Please click here to Add Answer](#))

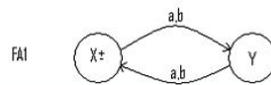
Rich text editor toolbar with icons for undo, redo, bold, italic, underline, link, unlink, list, and table. The font style is set to 'Normal', the font face to 'Arial', and the font size to '12'. The zoom level is set to '100%'.

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Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)

Concatenate the following two FAs:



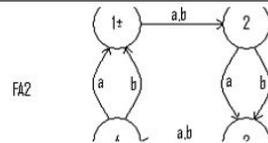
Answer ([Please click here to Add Answer](#))

Rich text editor toolbar with icons for undo, redo, bold, italic, underline, link, unlink, list, and table. The font size is set to 12 and the font style is Arial.

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Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)



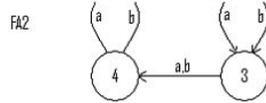
Answer ([Please click here to Add Answer](#))

Rich text editor toolbar with icons for undo, redo, bold, italic, underline, link, unlink, list, and table. It also includes a font size dropdown set to 12 and a text color dropdown set to Arial.

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Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)



Answer ([Please click here to Add Answer](#))

Rich text editor toolbar with icons for undo, redo, bold, italic, underline, link, unlink, list, and table. It also includes a font size dropdown set to 12 and a zoom level dropdown set to 100%.

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Q.No=answer	page
1=a	3
2=b	moazz
3=b	idea
4=a	14
5=a	17
6=d	25
7=d	25
8=a	24
9=b	27
10=c	26
11=c	42
12=c	21
13=c	idea moa:
14=a	61
15=a	60
16=d	18
17=b	58
18=c	40
19=b	17
20=b	