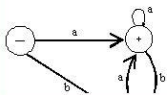


Q.No=answer	page
1=a	14
2=a	19
3=d	19
4=a	22
5=a	22
6=a	24
7=c	40
8=every	7
9=c	43
10=c	36
11=a	repeat
12=c	9
13=a	repeat
14=101111010	62
15=b	repeat
16=d	repeat
17=a	12
18=a	repeat
19=a	
20=c	

Question No : 1 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given FA generates a language i.e.



Answer (Please select your correct option)

Ending in a

Starting with a

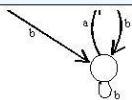
Ending with same letter.

Starting with same letter.

Made By: Waqar Siddhu

Question No : 1 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

Ending in a

Starting with a

Ending with same letter.

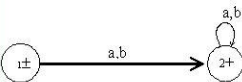
Starting with same letter.

Made By: Waqar Siddhu

Question No : 2 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given FA can be expressed as _____



Answer (Please select your correct option)

$(a + b)^*$

$a^* + b^*$

$(ab + ba)^*$

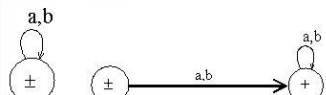
$(aa + bb)^*$

Made By: Waqar Siddhu

Question No : 3 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given TG's are _____.



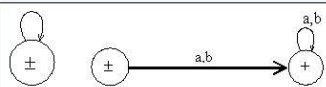
Answer (Please select your correct option)

- Non-equivalent
- Partially Equivalent
- There is no way to determine this condition
- Equivalent

Made By: Waqar Siddhu

Question No : 3 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

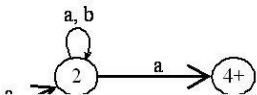
- Non-equivalent
- Partially Equivalent
- There is no way to determine this condition
- Equivalent

Made By: Waqar Siddhu

Question No : 4 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given TG represents the language i.e.



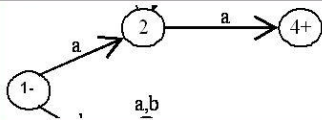
Answer (Please select your correct option)

- Begins and ends with same letters
- Begins with a
- Begins and ends with different letters
- Begins with b

Made By: Waqar Siddhu

Question No : 4 of 26

Marks: 1 (Budgeted Time 1 Min)



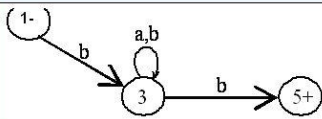
Answer (Please select your correct option)

- Begins and ends with same letters
- Begins with a
- Begins and ends with different letters
- Begins with b

Made By: Waqar Siddhu

Question No : 4 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

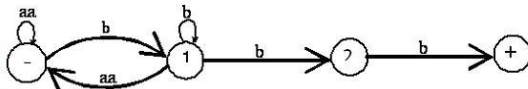
- Begins and ends with same letters
- Begins with a
- Begins and ends with different letters
- Begins with b

Made By: Waqar Siddhu

Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given TG represents the language :



Answer (Please select your correct option)

- in which a's occur only in even clumps and that ends in three or more b's
- length greater than 2
- it does not accepts any language
- length greater than 3

Made By: Waqar Siddhu

Question No : 6 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given GTG's are _____



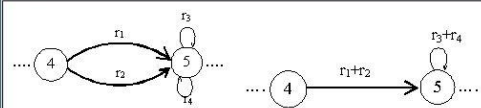
Answer (Please select your correct option)

- Equivalent
- Non-equivalent
- Different
- Non-Symmetric

Made By: Waqar Siddhu

Question No : 6 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

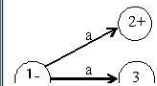
- Equivalent
- Non-equivalent
- Different
- Non-Symmetric

Made By: Waqar Siddhu

Question No : 7 of 26

Marks: 1 (Budgeted Time 1 Min)

The number of strings accepted by NFA given below is _____



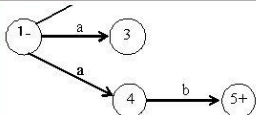
Answer (Please select your correct option)

- 4
- 3
- 2
- 1

Made By: Waqar Siddhu

Question No : 7 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

4

3

2

1

Made By: Waqar Siddhu

Question No : 8 of 26

Marks: 1 (Budgeted Time 1 Min)

If FA1 corresponds to $(a+b)^*$, then FA1 must accept _____ string.

Odd length

Even length

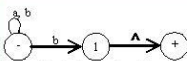
Every

No

Made By: Waqar Siddhu

Question No : 9 of 26

Marks: 1 (Budgeted Time 1 Min)



Above NFA- \wedge (NFA with null string) accepts the following string _____

a

baba

baaab

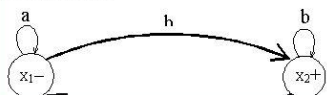
aaba

Made By: Waqar Siddhu

Question No : 10 of 26

Marks: 1 (Budgeted Time 1 Min)

FA1 (given below):



Answer (Please select your correct option)

8

7

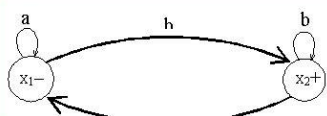
6

5

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Question No : 10 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

8

7

6

5

Made By: Waqar Siddhu

Question No : 10 of 26

Marks: 1 (Budgeted Time 1 Min)

FA2 (given below):



Answer (Please select your correct option)

8

7

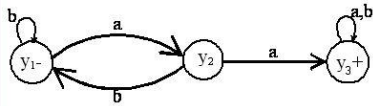
6

5

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Question No : 10 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

8

7

6

5

Made By: Waqar Siddhu

Question No : 10 of 26

Marks: 1 (Budgeted Time 1 Min)

If FA3 expresses r_1r_2 , then FA3 will have max. _____ states in its diagram.

NOTE: r_1 is RE of FA1 and r_2 is RE of FA2

Answer (Please select your correct option)

8

7

6

5

Made By: Waqar Siddhu

Question No : 11 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 : 12 of 26

Marks: 1 (Budgeted Time 1 Min)

Which of the following is RE for a language defined over $\Sigma = \{a, b\}$ having words starting with a:

$(a + b)^*$

$aa(a + b)^+$

$a(a + b)^*$

$a^*(a + b)$

Made By: Waqar Siddhu

Question No : 13 of 26

Marks: 1 (Budgeted Time 1 Min)

A language can be represented by _____ RE / REs.

more than one

only one

only two

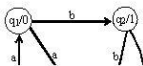
only three

Made By: Waqar Siddhu

Question No : 14 of 26

Marks: 1 (Budgeted Time 1 Min)

If we run the string "abbabba" on this Moore machine, the output will be _____.



101111010

101111010

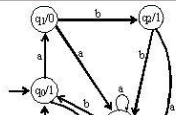
01011110

01010101

Made By: Waqar Siddhu

Question No : 14 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

101111010

101111010

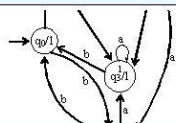
01011110

01010101

Made By: Waqar Siddhu

Question No : 14 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

101111010

101111010

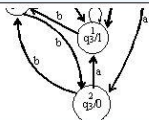
01011110

01010101

Made By: Waqar Siddhu

Question No : 14 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

101111010

101111010

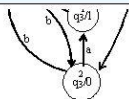
01011110

01010101

Made By: Waqar Siddhu

Question No : 14 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

101111010

101111010

01011110

01010101

Made By: Waqar Siddhu

Question No : 15 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.

Moore machine

Mealy machine

Incremental machine

Adding Machine

Made By: Waqar Siddhu

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

$r1^*r2r3^*$

$(r1r2r3)^*$

$r1^*r2^*r3^*$

None of the given

Made By: Waqar Siddhu

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Considering Kleene's theorem, what RE should be in place of X in the 2nd GTG.

Answer (Please select your correct option)

$r_1^* r_2 r_3^*$

$(r_1 r_2 r_3)^*$

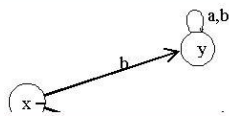
$r_1^* r_2^* r_3^*$

None of the given

Made By: Waqar Siddhu

Question No : 17 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

starts with a

ends in a

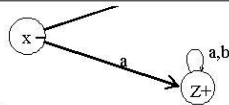
ends in a, b

generates no language

Made By: Waqar Siddhu

Question No : 17 of 26

Marks: 1 (Budgeted Time 1 Min)



Below given FA generates the language which _____

Answer (Please select your correct option)

starts with a

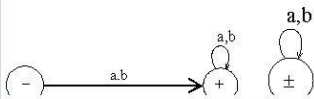
ends in a

ends in a, b

generates no language

Made By: Waqar Siddhu

Following two FA's are _____



Answer (Please select your correct option)

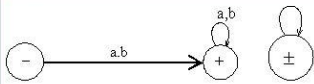
- equivalent
 - non-equivalent
 - FA2 is invalid
 - cannot be determined
- Made By: Waqar Siddhu**

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

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

Normal Arial 12 B I U

Made By: Waqar Siddhu



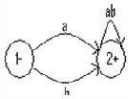
Answer (Please select your correct option)

- equivalent
 - non-equivalent
 - FA2 is invalid
 - cannot be determined
- Made By: Waqar Siddhu**

Question No : 19 of 26

Marks: 1 (Budgeted Time 1 Min)

How many steps are required to convert the given transition graph into a regular expression?



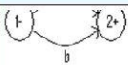
Answer (Please select your correct option)

- 1 step
- 2 steps
- 3 steps
- 4 steps

Made By: Waqar Siddhu

Question No : 19 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer (Please select your correct option)

- 1 step
- 2 steps
- 3 steps
- 4 steps

Made By: Waqar Siddhu

Question No : 20 of 26

Marks: 1 (Budgeted Time 1 Min)

More than one regular expressions for a language are called _____ regular expressions.

Answer (Please select your correct option)

- compatible
- same
- equivalent
- similar

Made By: Waqar Siddhu

Question No : 21 of 26 Marks: 2 (Budgeted Time 4 Min)

How can we know, what language a certain RE represents?

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

Rich text editor toolbar with options for Bold, Italic, Underline, Text Color, Background Color, Bulleted List, Numbered List, Indent, Outdent, Undo, Redo, and a 100% zoom level. The text area is currently empty.

Made By: Waqar Siddhu

Question No : 22 of 26 Marks: 2 (Budgeted Time 4 Min)

Are S^* and S^+ same? If your answer is yes or No, give reason..

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

Rich text editor toolbar with options for Bold, Italic, Underline, Text Color, Background Color, Bulleted List, Numbered List, Indent, Outdent, Undo, Redo, and a 100% zoom level. The text area is currently empty.

Made By: Waqar Siddhu

Question No : 23 of 26 Marks: 3 (Budgeted Time 6 Min)

Construct a regular expression defining the following language over the alphabet $\Sigma = \{a, b\}$:
All strings in which the letter b never tripled. This means that no words contain the substring bbb.

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

Rich text editor toolbar with options for Bold, Italic, Underline, Text Color, Background Color, Bulleted List, Numbered List, Indent, Outdent, Undo, Redo, and a 100% zoom level. The text area is currently empty.

Made By: Waqar Siddhu

Question No : 24 of 26

Marks: 3 (Budgeted Time 6 Min)

Let L be the language of strings, defined over $\Sigma = \{0,1\}$, ending in 01.
Does "1101" and "0100111" belong to L . Give reasons to support your answer.

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

Rich text editor toolbar with options for font style, size, color, and alignment. The text area is currently empty.

Made By: Waqar Siddhu

Question No : 25 of 26

Marks: 5 (Budgeted Time 10 Min)

Construct NFA for the given regular expression.
 $(a + b)^*b(a + b)^*aa(a + b)^*$

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

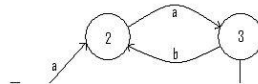
Rich text editor toolbar with options for font style, size, color, and alignment. The text area is currently empty.

Made By: Waqar Siddhu

Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)

Determine Regular Expression (RE) for the following Non-deterministic Finite Automaton (NFA):



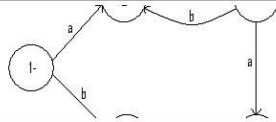
Answer (Please [click here to Add Answer](#))

Rich text editor toolbar with options for font style, size, color, and alignment. The text area is currently empty.

Made By: Waqar Siddhu

Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)



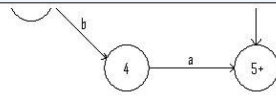
Answer (Please [click here to Add Answer](#))

Rich text editor toolbar with options for font style (Normal, Arial), size (12), bold (B), italic (I), underline (U), and a 100% zoom level.

Made By: Waqar Siddhu

Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)



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

Rich text editor toolbar with options for font style (Normal, Arial), size (12), bold (B), italic (I), underline (U), and a 100% zoom level.

Made By: Waqar Siddhu