

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 moazz
14=a	61
15=a	60
16=d	18
17=b	58
18=c	40
19=b	17
20=b	

Question No : 1 of 26

Marks: 1 (Budgeted Time 1 Min)

Which statement is true?

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  $\Sigma^*$  will not contain

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  $(a + b)^* ab$

abb

abab

bbbb

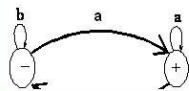
aaaa

**Made By: Waqar Siddhu**

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

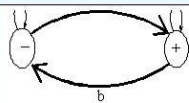
a (a + b)\*

b (a + b)\*

**Made By: Waqar Siddhu**

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)\*

**Made By: Waqar Siddhu**

Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)

Below given FA accepts \_\_\_\_\_ language.



Answer ( Please select your correct option )

Finite

Infinite

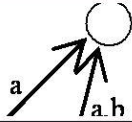
No

All

**Made By: Waqar Siddhu**

Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

Finite

Infinite

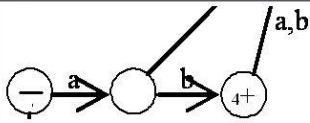
No

All

**Made By: Waqar Siddhu**

Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

Finite

Infinite

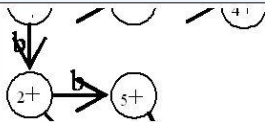
No

All

**Made By: Waqar Siddhu**

Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

Finite

Infinite

No

All

**Made By: Waqar Siddhu**

Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

C

Finite

C

Infinite

C

No

C

All

**Made By: Waqar Siddhu**

Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

C

Finite

C

Infinite

C

No

C

All

**Made By: Waqar Siddhu**

Question No : 5 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

C

Finite

C

Infinite

C

No

C

All

**Made By: Waqar Siddhu**

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

**Made By: Waqar Siddhu**

Question No : 7 of 26

Marks: 1 (Budgeted Time 1 Min)

"One language can be expressed by \_\_\_\_\_ GTG".

only one

only two

only three

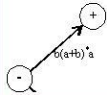
more than one

**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

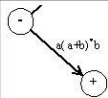
Have length greater than 1

Begins with same letters

**Made By: Waqar Siddhu**

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

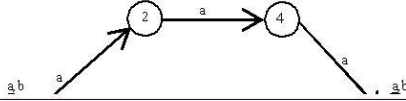
RE

**Made By: Waqar Siddhu**

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

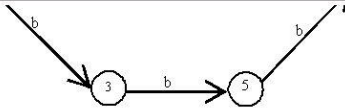
aaaab

bbaabb

**Made By: Waqar Siddhu**

Question No : 12 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

bababa

ababab

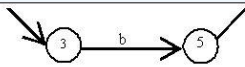
aaaab

bbaabb

**Made By: Waqar Siddhu**

Question No : 12 of 26

Marks: 1 (Budgeted Time 1 Min)



Above given TG accepts the \_\_\_\_\_ string.

bababa

ababab

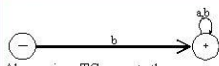
aaaab

bbaabb

**Made By: Waqar Siddhu**

Question No : 13 of 26

Marks: 1 (Budgeted Time 1 Min)



Above given TG accepts the \_\_\_\_\_ string.

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.

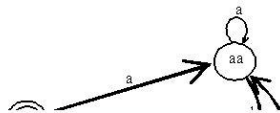
Answer ( Please select your correct option )

- 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 )

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

**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 )

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

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

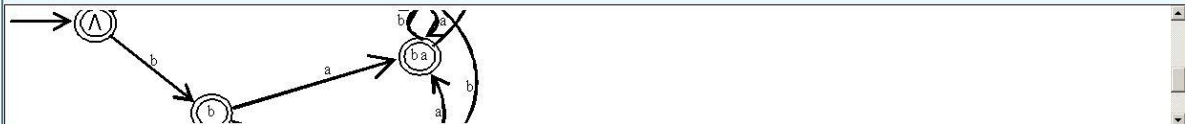
$(a+b)^*(ab+ba+bb)^*$

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

**Made By: Waqar Siddhu**

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

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

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

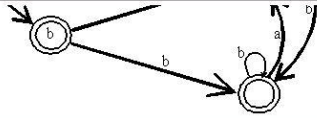
$(a+b)^*(ab+ba+bb)^*$

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

**Made By: Waqar Siddhu**

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

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

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

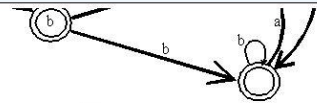
$(a+b)^*(ab+ba+bb)^*$

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

**Made By: Waqar Siddhu**

Question No : 16 of 26

Marks: 1 (Budgeted Time 1 Min)



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

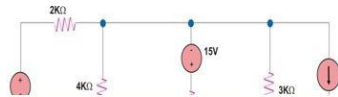
Adding Machine

**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 options like Bold, Italic, Underline, and a 100% zoom level. The answer area is currently blank.

**Made By: Waqar Siddhu**

Question No : 18 of 26

Marks: 1 (Budgeted Time 1 Min)

A 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**

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 )

- C xxxxyxyxyx
- C xxxxyxyxyy
- C xxxxyxyxyxx
- C xxxxyxyxyy

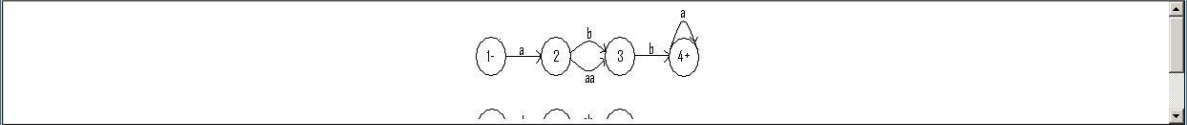
**Made By: Waqar Siddhu**

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 )

Rich text editor toolbar with options like Bold, Italic, Underline, and text color.

**Made By: Waqar Siddhu**



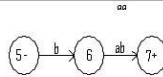
Answer ( Please [click here](#) to Add Answer )

Rich text editor toolbar with options like Bold, Italic, Underline, and text color.

**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 options for font style, size, color, background color, bold, italic, underline, link, unlink, list, and image. The text area is currently empty.

**Made By: Waqar Siddhu**

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](#) )

Rich text editor toolbar with options for font style, size, color, background color, bold, italic, underline, link, unlink, list, and image. The text area is currently empty.

**Made By: Waqar Siddhu**

Question No : 24 of 26

Marks: 3 (Budgeted Time 6 Min)

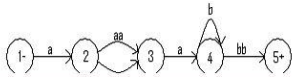
Differentiate between Moore and Mealy machines by mentioning two differences and one similarity.

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

Rich text editor toolbar with options for font style, size, color, background color, bold, italic, underline, link, unlink, list, and image. The text area is currently empty.

**Made By: Waqar Siddhu**

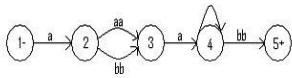
According to Kleene's theorem, convert (step by step) the given transition graph into regular expression.



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

Rich text editor interface with a toolbar and a large empty text area for the answer.

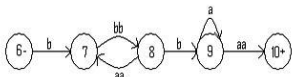
**Made By: Waqar Siddhu**



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

Rich text editor interface with a toolbar and a large empty text area for the answer.

**Made By: Waqar Siddhu**



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

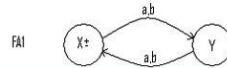
Rich text editor interface with a toolbar and a large empty text area for the answer.

**Made By: Waqar Siddhu**

Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)

Concatenate the following two FAs:



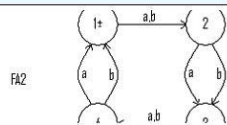
Answer ( Please [click here to Add Answer](#) )

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

**Made By: Waqar Siddhu**

Question No : 26 of 26

Marks: 5 (Budgeted Time 10 Min)



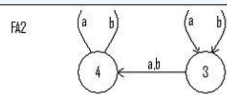
Answer ( Please [click here to Add Answer](#) )

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

**Made By: Waqar Siddhu**