| Q.No=answer | page |
| --- | --- |
| 1=a | repeat |
| 2=c | repeat |
| 3=c | 25 |
| 4=d | |
| 5=a | |
| 6=c | |
| 7=c | |
| 8=a | 22 |
| 9=c | 43 |
| 10=c | 43 |
| 11=c | 71 |
| 12=1 | |
| 13=a | 19 |
| 14=6 | |
| 15=a | |
| 16=2 | |
| 17=c | |
| 18=a | |
| 19=c | |
| 20=b | |

Question No : 1 of 26 Marks: 1 (Budgeted Time 1 Min)

If $\Sigma = \{aa, bb\}$, then $\Sigma^*$ will not contain..

Answer ( Please select your correct option )

- aaabbb
- aabbbb
- aabbaa
- bbaabbbb



Question No : 2 of 26 Marks: 1 (Budgeted Time 1 Min)

"One language can be expressed by _____ FA".

Answer ( Please select your correct option )

- only one
- any
- more than one
- only two



Question No : 3 of 26 Marks: 1 (Budgeted Time 1 Min)

Every FA should be _____

Answer ( Please select your correct option )

- Deterministic & Non- Deterministic
- Depends on language
- Deterministic
- Non- Deterministic

Question No : 4 of 26 Marks: 1 (Budgeted Time 1 Min)

The Regular Expression (a + b)* can be drawn with minimum _____ state(s).

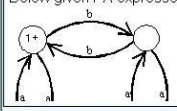
Answer ( Please select your correct option )

- 4
- 3
- 2
- 1

Made By: Waqar Siddhu

Question No : 5 of 26 Marks: 1 (Budgeted Time 1 Min)

Below given FA expresses _____.

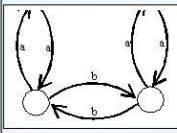



Answer ( Please select your correct option )

- EVEN-EVEN language
- ODD-ODD language
- PALINDROME
- Starting and ending with same letter

Made By: Waqar Siddhu

Question No : 5 of 26 Marks: 1 (Budgeted Time 1 Min)




Answer ( Please select your correct option )

- EVEN-EVEN language
- ODD-ODD language
- PALINDROME
- Starting and ending with same letter

Made By: Waqar Siddhu

Question No : 6 of 26 Marks: 1 (Budgeted Time 1 Min)

Using tree structure, initial state can be represented by____

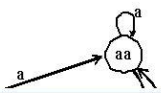
Answer ( Please select your correct option )

- An arrow
- +
- -
- *



Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

Below given FA is drawn using

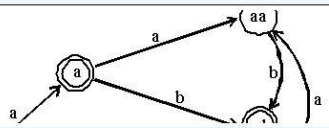



Answer ( Please select your correct option )

- Graph structure
- Tree structure
- Simple structure
- FA is invalid



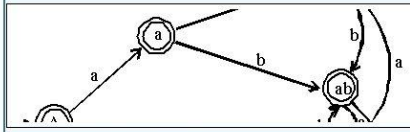
Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)




Answer ( Please select your correct option )

- Graph structure
- Tree structure
- Simple structure
- FA is invalid

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

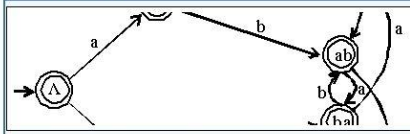



Answer ( Please select your correct option )

- Graph structure
- Tree structure
- Simple structure
- FA is invalid

Made By: Waqar Siddhu

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

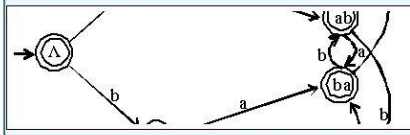



Answer ( Please select your correct option )

- Graph structure
- Tree structure
- Simple structure
- FA is invalid

Made By: Waqar Siddhu

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

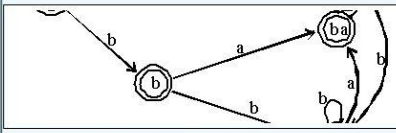



Answer ( Please select your correct option )

- Graph structure
- Tree structure
- Simple structure
- FA is invalid

Made By: Waqar Siddhu

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)

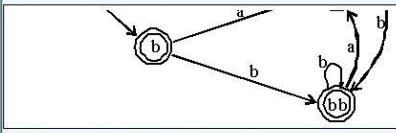



Answer ( Please select your correct option )

- Graph structure
- Tree structure
- Simple structure
- FA is invalid

Made By: Waqar Siddhu

Question No : 7 of 26 Marks: 1 (Budgeted Time 1 Min)



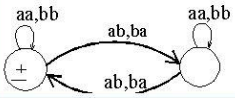

Answer ( Please select your correct option )

- Graph structure
- Tree structure
- Simple structure
- FA is invalid

Made By: Waqar Siddhu

Question No : 8 of 26 Marks: 1 (Budgeted Time 1 Min)

Below given TG represents the language i.e.

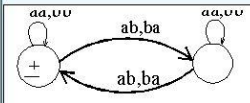



Answer ( Please select your correct option )

- EVEN-EVEN
- PALINDROME
- FACTORIAL
- ODD

Made By: Waqar Siddhu

Question No : 8 of 26 Marks: 1 (Budgeted Time 1 Min)

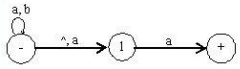



Answer ( Please select your correct option )

- EVEN-EVEN
- PALINDROME
- FACTORIAL
- ODD

Made By: Waqar Siddhu

Question No : 9 of 26 Marks: 1 (Budgeted Time 1 Min)



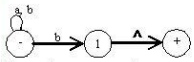

Above NFA-^ (NFA with Null String) accepts_____

Answer ( Please select your correct option )

- bab
- b
- a
- bbb

Made By: Waqar Siddhu

Question No : 10 of 26 Marks: 1 (Budgeted Time 1 Min)




Above given structure is a _____.

Answer ( Please select your correct option )

- FA
- NFA
- NFA - ^
- RE

Made By: Waqar Siddhu

Question No : 11 of 26 Marks: 1 (Budgeted Time 1 Min)

Kleene's theorem can be helpful in building _____ from _____.

Answer ( Please select your correct option )

- FA , NFA
- NFA,FA
- FA,TG
- FA, GTG



Question No : 12 of 26 Marks: 1 (Budgeted Time 1 Min)

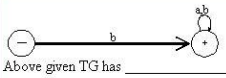
In Finite Automaton, there may exist _____ path(s) for a certain string.

Answer ( Please select your correct option )

- 0
- 1
- 2
- 3



Question No : 13 of 26 Marks: 1 (Budgeted Time 1 Min)



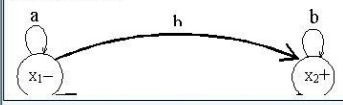

Above given TG has _____ RE.

Answer ( Please select your correct option )

- b(a + b)*
- b*(a + b)*
- b*(a + b)
- a(a + b)*

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)

FA1 (given below):




Answer ( Please select your correct option )

8

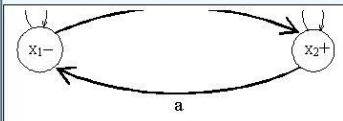
7

6

5

Made By: Waqar Siddhu

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)




Answer ( Please select your correct option )

8

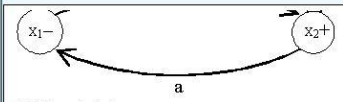
7

6

5

Made By: Waqar Siddhu

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)




FA2 (given below):

Answer ( Please select your correct option )

8

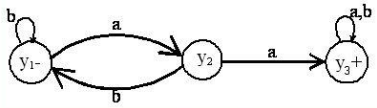
7

6

5

Made By: Waqar Siddhu

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)

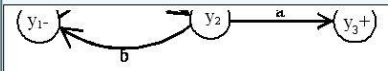



Answer ( Please select your correct option )

- 8
- 7
- 6
- 5

Made By: Waqar Siddhu

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)




If FA3 expresses r1r2, then FA3 will have max. _____ states in its diagram.

Answer ( Please select your correct option )

- 8
- 7
- 6
- 5

Made By: Waqar Siddhu

Question No : 14 of 26 Marks: 1 (Budgeted Time 1 Min)

If FA3 expresses r1r2, then FA3 will have max. _____ states in its diagram.

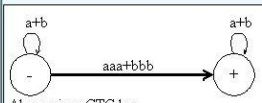
NOTE: r1 is RE of FA1 and r2 is RE of FA2

Answer ( Please select your correct option )

- 8
- 7
- 6
- 5

Made By: Waqar Siddhu

Question No : 15 of 26 Marks: 1 (Budgeted Time 1 Min)



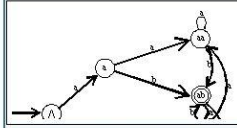

Above given GTG has _____ RE.

Answer ( Please select your correct option )

- (a+b)* (aaa + bbb) (a+b)*
- (a+b)* (aaa + bbb)* (a+b)*
- (a+b)* (aaa + bbb) (a+b)
- (a+b) (aaa + bbb) (a+b)

Made By: Waqar Siddhu

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)

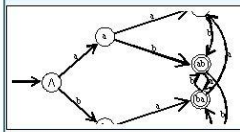


Answer ( Please select your correct option )

- 1
- 2
- 3
- 4

Made By: Waqar Siddhu

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)

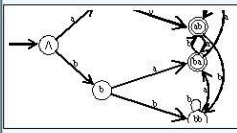


Answer ( Please select your correct option )

- 1
- 2
- 3
- 4

Made By: Waqar Siddhu

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)



Answer ( Please select your correct option )

1

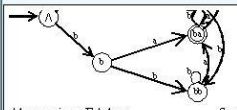
2

3

4

Made By: Waqar Siddhu

Question No : 16 of 26 Marks: 1 (Budgeted Time 1 Min)



Above given FA has _____ final states

Answer ( Please select your correct option )

1

2

3

4

Made By: Waqar Siddhu

Question No : 17 of 26 Marks: 1 (Budgeted Time 1 Min)

Suppose we have FA3 which is the union of FA1 and FA2. Now the initial state of the FA3 will be:

Answer ( Please select your correct option )

Initial state of FA1

Initial state of FA2

Initial state of FA1 and FA2

Final state of FA2

Made By: Waqar Siddhu

Question No : 18 of 26 Marks: 1 (Budgeted Time 1 Min)

Every Nondeterministic Finite Automaton (NFA) can be considered to be a Finite Automaton (FA) only if _____.

Answer ( Please select your correct option )

- NFA cannot use its relaxation
- FA use its properties
- FA cannot use its properties
- NFA use its relaxation

Made By: Waqar Siddhu

Question No : 19 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 : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

Consider the following Finite Automaton (FA):

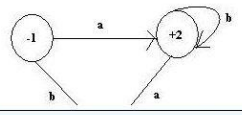
RE = ab*


Answer ( Please select your correct option )

- **aaaaab**
- **aabbbba**
- abbbb
- **abbbabb**

Made By: Waqar Siddhu

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

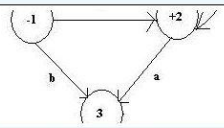



Answer ( Please select your correct option )

- aaaaab
- aabbbba
- abbbb
- abbbabb

Made By: Waqar Siddhu

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

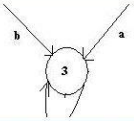



Answer ( Please select your correct option )

- aaaaab
- aabbbba
- abbbb
- abbbabb

Made By: Waqar Siddhu

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)

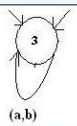



Answer ( Please select your correct option )

- aaaaab
- aabbbba
- abbbb
- abbbabb

Made By: Waqar Siddhu

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)




Answer ( Please select your correct option )

- aaaaab
- aabbbba
- abbbb
- abbbabb

Made By: Waqar Siddhu

Question No : 20 of 26 Marks: 1 (Budgeted Time 1 Min)


All of the given words are accepted except _____.

Answer ( Please select your correct option )

- aaaaab
- aabbbba
- abbbb
- abbbabb

Made By: Waqar Siddhu

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

Read the following statements carefully. If the statement is true write true otherwise write false.

a) Kleene's star and Kleene's closure are different
b) Length of output string is one less than that of input string in mealy machine.

Answer ( Please click here to Add Answer )

Made By: Waqar Siddhu

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

What is the difference between Moore and Mealy machine with respect to the length of input and output string?

Answer ( Please click here to Add Answer )



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

Do you agree with the following statements? If yes then write **True** otherwise, write the correct statement?

1. Number of Strings in a regular language can not be infinite.
2. Concatenation of finite letters from the alphabet is called a sigma.
3. There can not be more than one Finite Automata's for the same language.

Answer ( Please click here to Add Answer )



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 )

Question No : 25 of 26 Marks: 5 (Budgeted Time 10 Min)

Build an NFA equivalent to $FA_1 U FA_2$, where $FA_1$, $FA_2$ are given below.

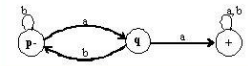
FA1


Answer ( Please click here to Add Answer )



Question No : 25 of 26 Marks: 5 (Budgeted Time 10 Min)

FA1

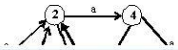



Answer ( Please click here to Add Answer )

Made By: Waqar Siddhu

Question No : 25 of 26 Marks: 5 (Budgeted Time 10 Min)

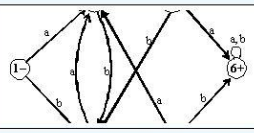
FA2




Answer ( Please click here to Add Answer )

Made By: Waqar Siddhu

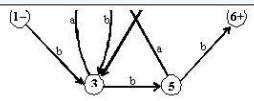
Question No : 25 of 26 Marks: 5 (Budgeted Time 10 Min)




Answer ( Please click here to Add Answer )



Question No : 25 of 26 Marks: 5 (Budgeted Time 10 Min)

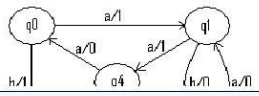



Answer ( Please click here to Add Answer )



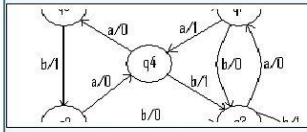
Question No : 26 of 26 Marks: 5 (Budgeted Time 10 Min)

Consider the following Mealy machine:




Answer ( Please click here to Add Answer )

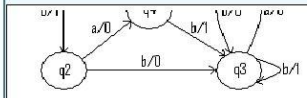
Question No : 26 of 26 Marks: 5 (Budgeted Time 10 Min)




Answer ( Please click here to Add Answer )



Question No : 26 of 26 Marks: 5 (Budgeted Time 10 Min)




What transitions are required to get the output string "100110010"? Show all transitions in a table.

Answer ( Please click here to Add Answer )