MIDTERM FALL 2010

CS402

Question No: 1 (Marks: 1) - Please choose one

Auto Meta mean

- Manual work
- **Automatic work**

Question No: 2 (Marks: 1) - Please choose one

S= {a,bc,cc} has the latters

- 1
- 2
- **3**
- 4

Question No: 3 (Marks: 1) - Please choose one

S={a,bb,bab,baabb} set of strings then S* will not have

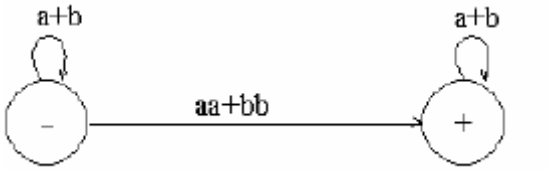
- Baba
- Baabbab
- Bbaaabb
- **bbbaabaabb(not confirmed)**

Question No: 4 (Marks: 1) - Please choose one

One language can represents more then one RE.

- **True**
- Falss
- Can't be assumed
- Non of given

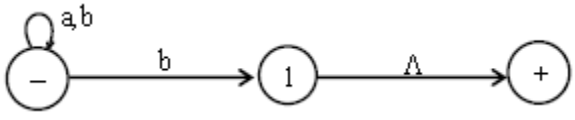
Question No: 5 (Marks: 1) - Please choose one



Given GTG has RE

- **(a+b)* (aa+bb)(a+b)***
- None of option

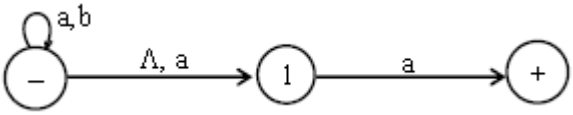
Question No: 6 (Marks: 1) - Please choose one



NFA accept _____String

- b
- babab
- baaab
- **all**

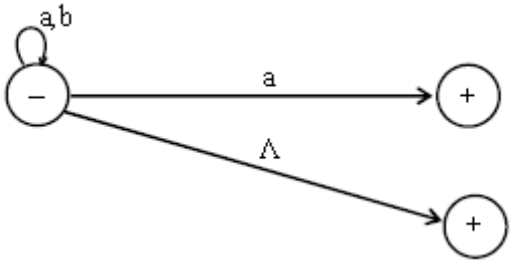
Question No:7 (Marks: 1) - Please choose one



NFA accept _____String

- bab
- a
- aba
- **a & aba**

Question No: 8 (Marks: 1) - Please choose one



TG has

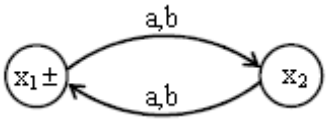
- (a+b)*
- **Λ+(a+b)*a**
- Λ+(a+b)*a*
- None of given

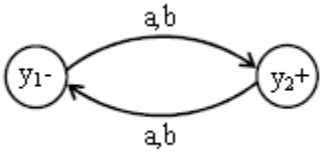
Question No: 9 (Marks: 1) - Please choose one

TG can more then one initial state

- **True**
- False
- Depend on alphabets
- None of given

Question No:10 (Marks: 1) - Please choose one





RE will be

- (a+b)*
- (a+b)*(a*+b*)
- **None of the given**

Question No: 11 (Marks: 1) - Please choose one

The clouser FA*(on an FA) always accept _____string

- Null
- aa
- bb
- **None of given**

Question No: 12 (Marks: 1) - Please choose one

In FA final state represent by _____sign

- **+**
- -
- =
- *

Question No: 13 (Marks: 1) - Please choose one

In FA one enter in specific stat but there is no way to leave it then state is called

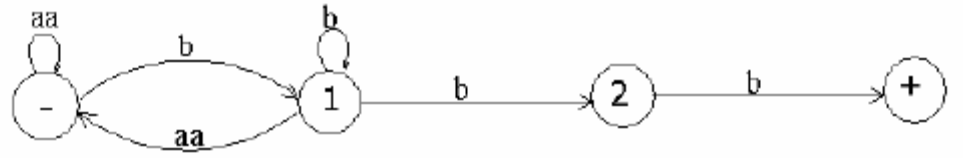
- Dead States
- Waste Baskets
- Davey John Lockers
- **All of above**

Question No: 14 (Marks: 1) - Please choose one

Using tree structure final state represent by

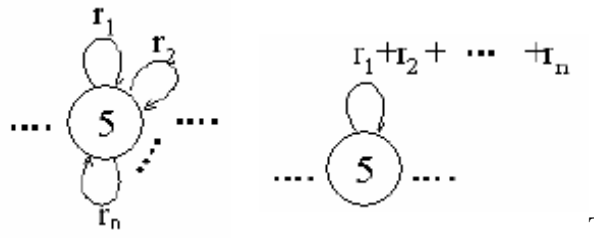
- *
- -
- **double circle**
- None of given

Question No: 15 (Marks: 1) - Please choose one



- **a's occur only in even clumps and that ends in three or more b's**
- length larger then 2
- it does not accept any language
- none of given option

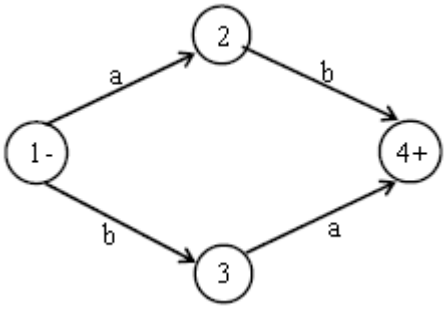
Question No: 16 (Marks: 1) - Please choose one

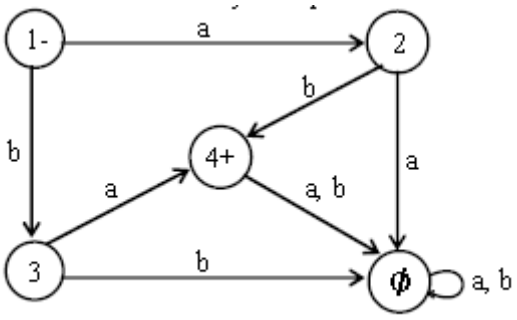


These GTG are _____

- **Equal**
- Not equal
- Not valid
- None of given

Question No: 17 (Marks: 1) - Please choose one



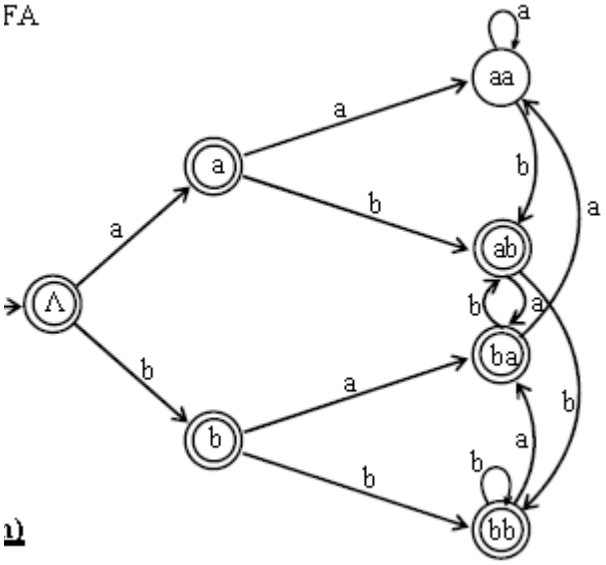


NFA to FA will_____

- **Equal**
- Not equal
- Not valid
- None of given

Question No: 18 (Marks: 1) - Please choose one

FA



ii)

FA having RE

K + a + b + (a+b)*(ab+ba+bb).

Question No: 19 (Marks: 1) - Please choose one

Question No: 20 (Marks: 1) - Please choose one

Question No: 21 (Marks: 2) - Please choose one

The language can express in FA then why we need NFA. Justify your answer.

Question No: 22 (Marks: 2) - Please choose one

Names of four type of autometa.

Question No: 23 (Marks: 3) - Please choose one

Check the given statements or correct or not if not then correct it.

1. **String in regular language can not be infinite**
2. **Concatenation of finite letters from alphabets called sigma**
3. **There cannot be more then on FA,s for same language.**

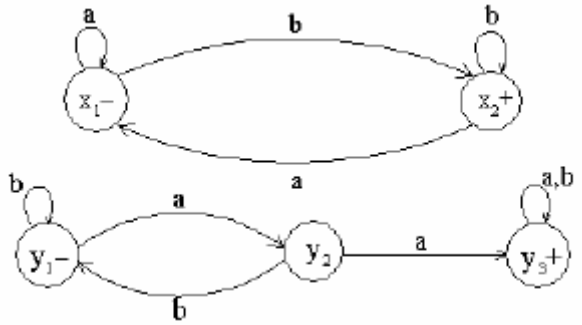
Question No: 24 (Marks: 3) - Please choose one

How can we know, what language a certain RE represent

Question No: 25 (Marks: 5) - Please choose one

Explain mealy machine

Question No: 26 (Marks: 5) - Please choose one



Show the transition table of FA_1+FA_2

Answer

Old States	New States after reading	
	a	b
$z_1 \equiv (x_1, y_1)$	$(x_1, y_2) \equiv z_2$	$(x_2, y_1) \equiv z_3$
$z_2 \equiv (x_1, y_2)$	$(x_1, y_3) \equiv z_4$	$(x_2, y_1) \equiv z_3$
$z_3 \equiv (x_2, y_1)$	$(x_1, y_2) \equiv z_2$	$(x_2, y_1) \equiv z_3$
$z_4 \equiv (x_1, y_3)$	$(x_1, y_3) \equiv z_4$	$(x_2, y_3) \equiv z_5$
$z_5 \equiv (x_2, y_3)$	$(x_1, y_3) \equiv z_4$	$(x_2, y_3) \equiv z_5$