Theory of Computation :- 24-Aug-18

Q2:) $(aaa + b)^*$

Q3:) $(a+b)^* (s1 + s2 + s3 + s4)^+ (a+b)^*$

Q4:) $a^*ba^*ba^* + a^*ba^*ba^*ba^*$

Q5:) (i) $(a+b)^*(aa+bb)$

(ii) $(a+b)^*(ab+ba) + a + b + \wedge$

Q6:) $(b+\wedge)(ab)^*aa(ba)^*(b+\wedge) +$

(15) $(ab)^* a$ and $a(ba)^*$

Represent same language no° bb's and starting and ending with a

(ii) $(a^* + b)^*$ $(a+b)^*$

$(a^*)^* + b^*$ $a^* + b^*$

$a^* + b^*$ $a^* + b^*$

Both are all strings possible in $\Sigma = (a, b)$

(17) (i) $((a+bb)^*aa)^*$, $\wedge + (a+bb)^*aa$

$bb \rightarrow$ i.e b occur in even (2) dumps and string must end with ba and $\wedge$ accepted

$\wedge$ + $(a+bb)^*aa$ → null accepted + string ends in aa and b occurs in even no°

(ii) $(aa)^*(\wedge + a)$, a^*

(2) No bb's

(2) No bb's

Same Language

(V) $\wedge + a(a+b)^* + (a+b)^* aa(a+b)^*$

$[(b^*a)^* ab^*)^*$

Accepted

(1) null ✓

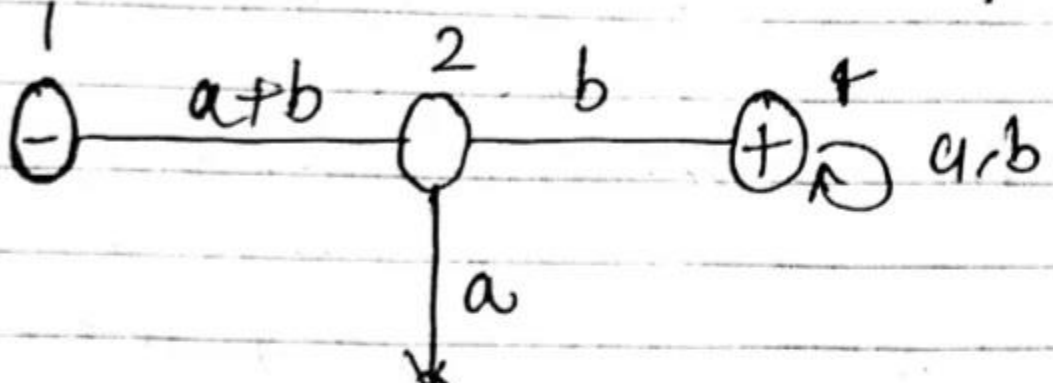
Accepted

(1) null ✓

4-5

Q2:

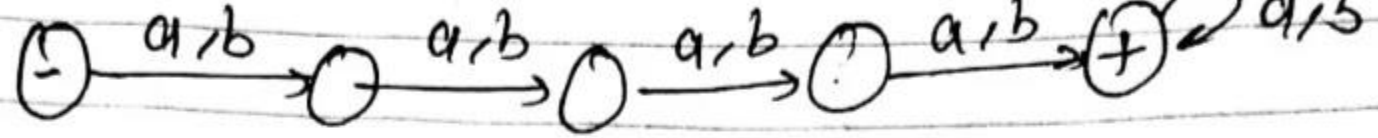
	a	b
1	2	2
2	3	4
3	3	3
4	4	4



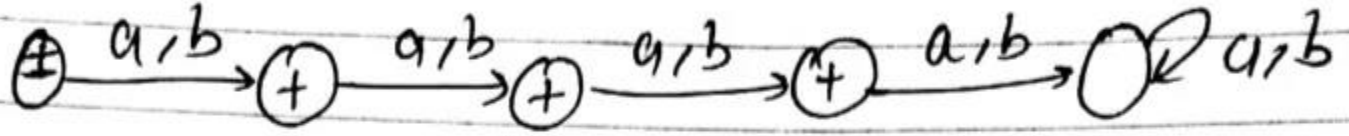
(iii) yes it must Reject some Inputs

Q5:)

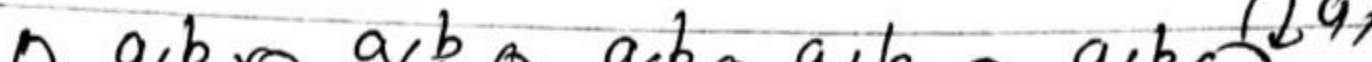
(i)

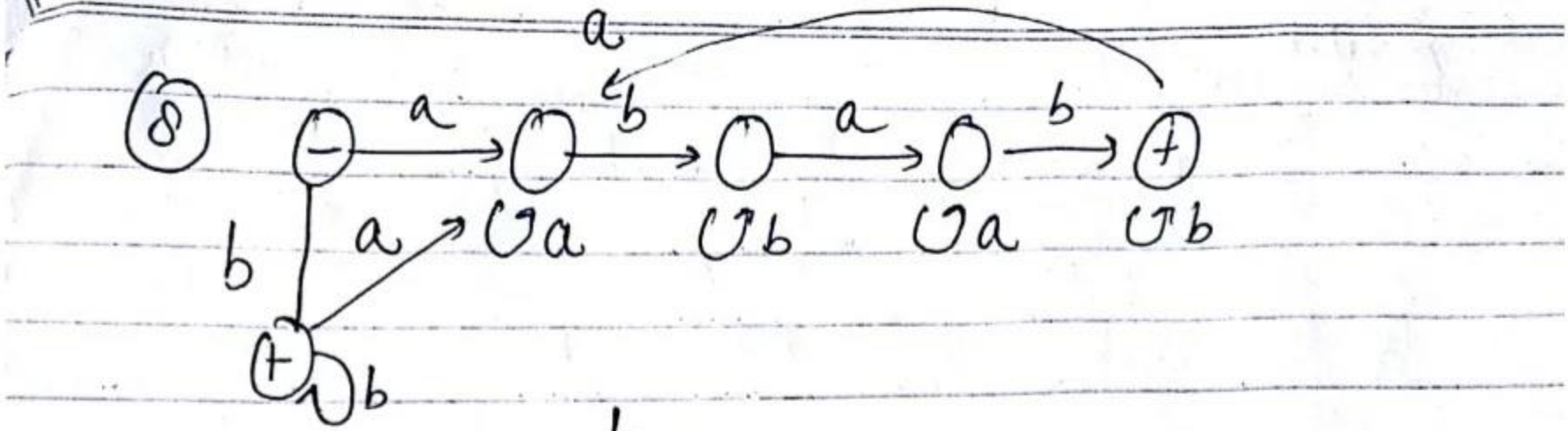


(ii)

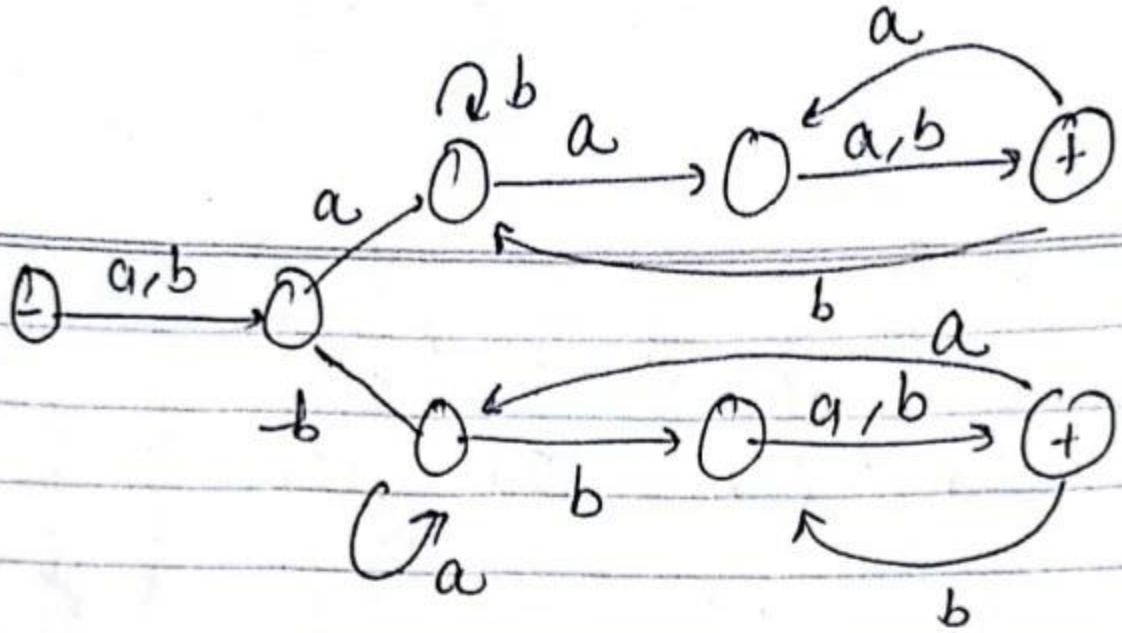


(iii)




8
a
b
a
b
a
b
a
b
a
b
b
9
(1)
a
b
b
a,b
b
a

(ii)



(15)