10 good

Quiz - 2
Section – 3F
Date - 19-Sept-25

Student Roll No. 24L-0723
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Total marks: 10

Note: In both questions, do all steps neatly in sequence. Otherwise, no marks will be given.

Q:1 - Given an NFA diagram below: (5 marks)

a) Remove null transitions to make NFA without null transitions.
(Make both transition tables one with null and other without null i.e. extended one)

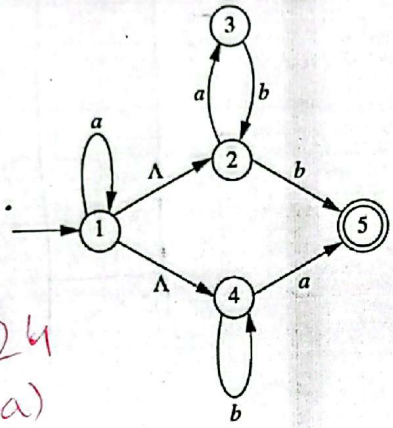
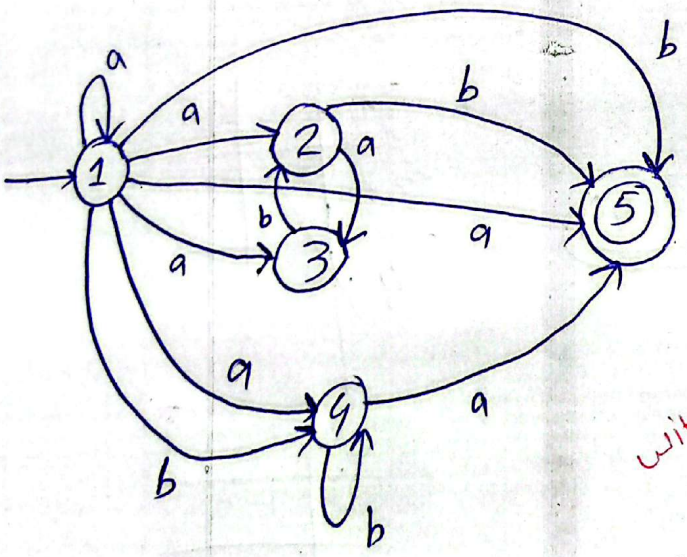


Fig. 3.24 (a) of Textbook

	Λ	a	b
1	{2,4}	{1,2,3}	4
2			
3			
4			
5			

With null transitions

	Λ	a	b
1	2,4	1	∅
2	∅	3	5
3	∅	∅	2
4	∅	5	4
5	∅	∅	∅



Without-null transitions Extended one

{1,2,3,4,5}

	δ*(a)	δ*(b)
1	{1,2,3}	{4,5}
2	3	5
3	∅	2
4	5	4
5	∅	∅

Q:2 - Make DFA for the diagram below. **(5 marks)**

Table was not required but it helps so good to use it.

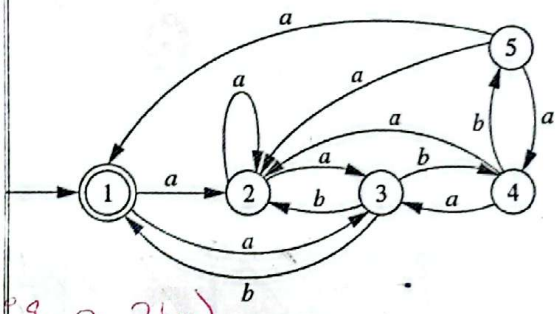
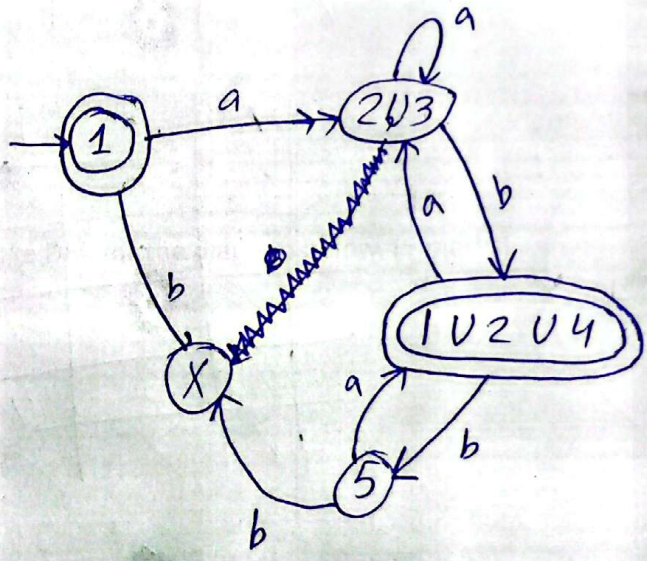


Fig 3.2(a) of Textbook

	δ(a)	δ(b)
1	{2,3}	∅
2	{2,3}	∅
3	∅	{1,2,3,4}
4	{2,3}	5
5	{1,2,4}	∅



	(a).	(b)
1	{2,3}	∅
{2,3}	{2,3}	{1,2}
4