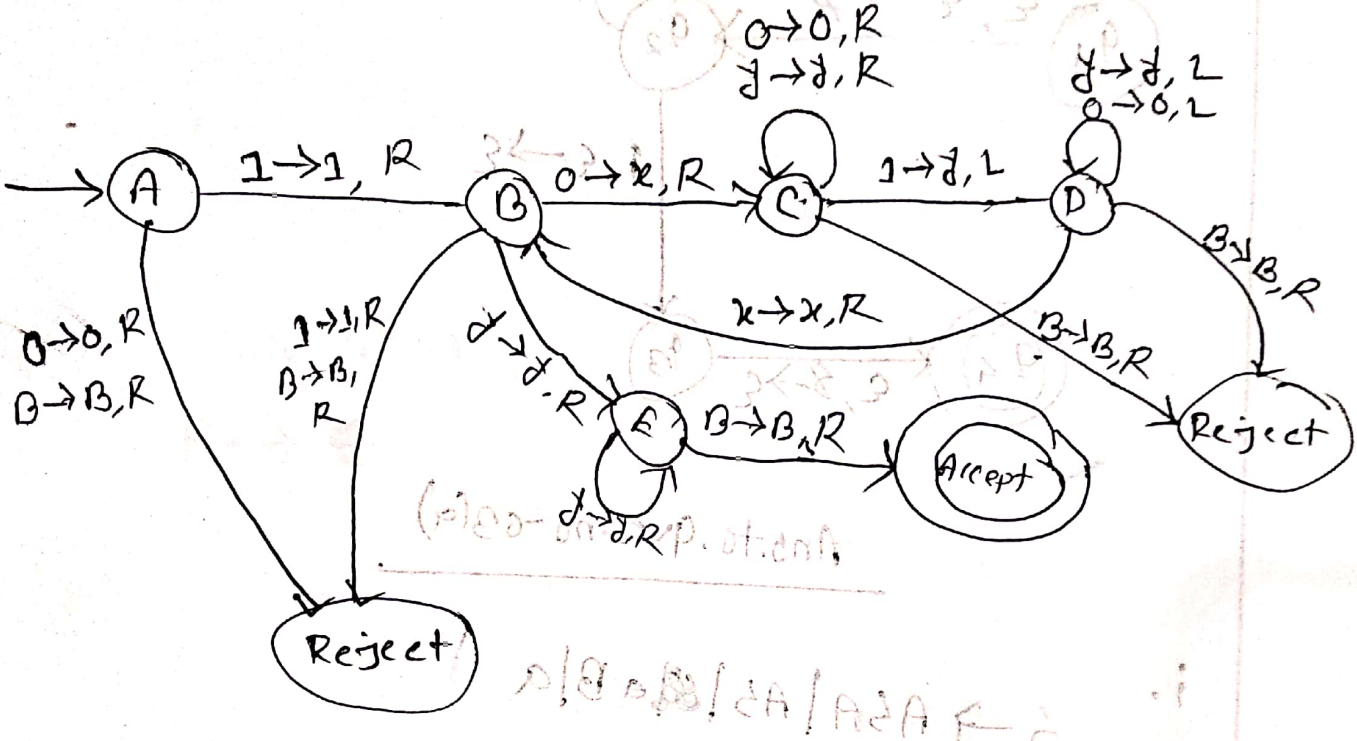
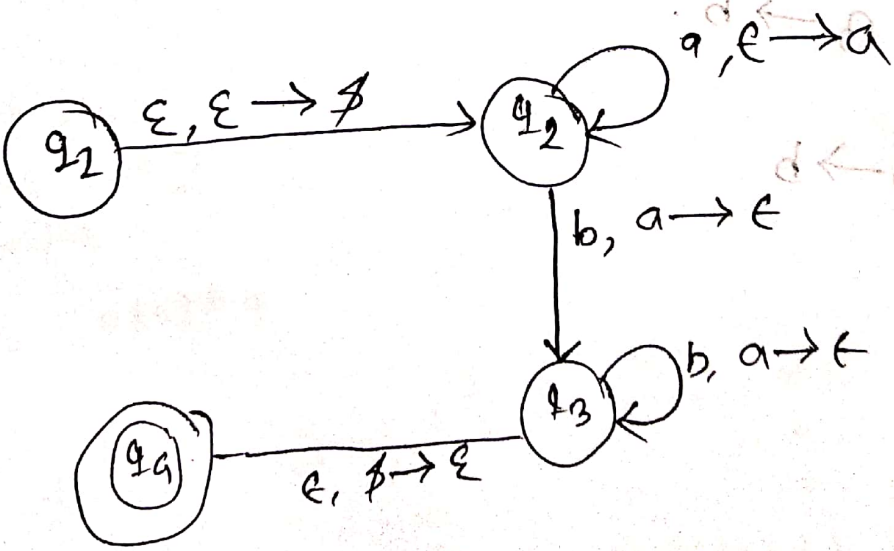
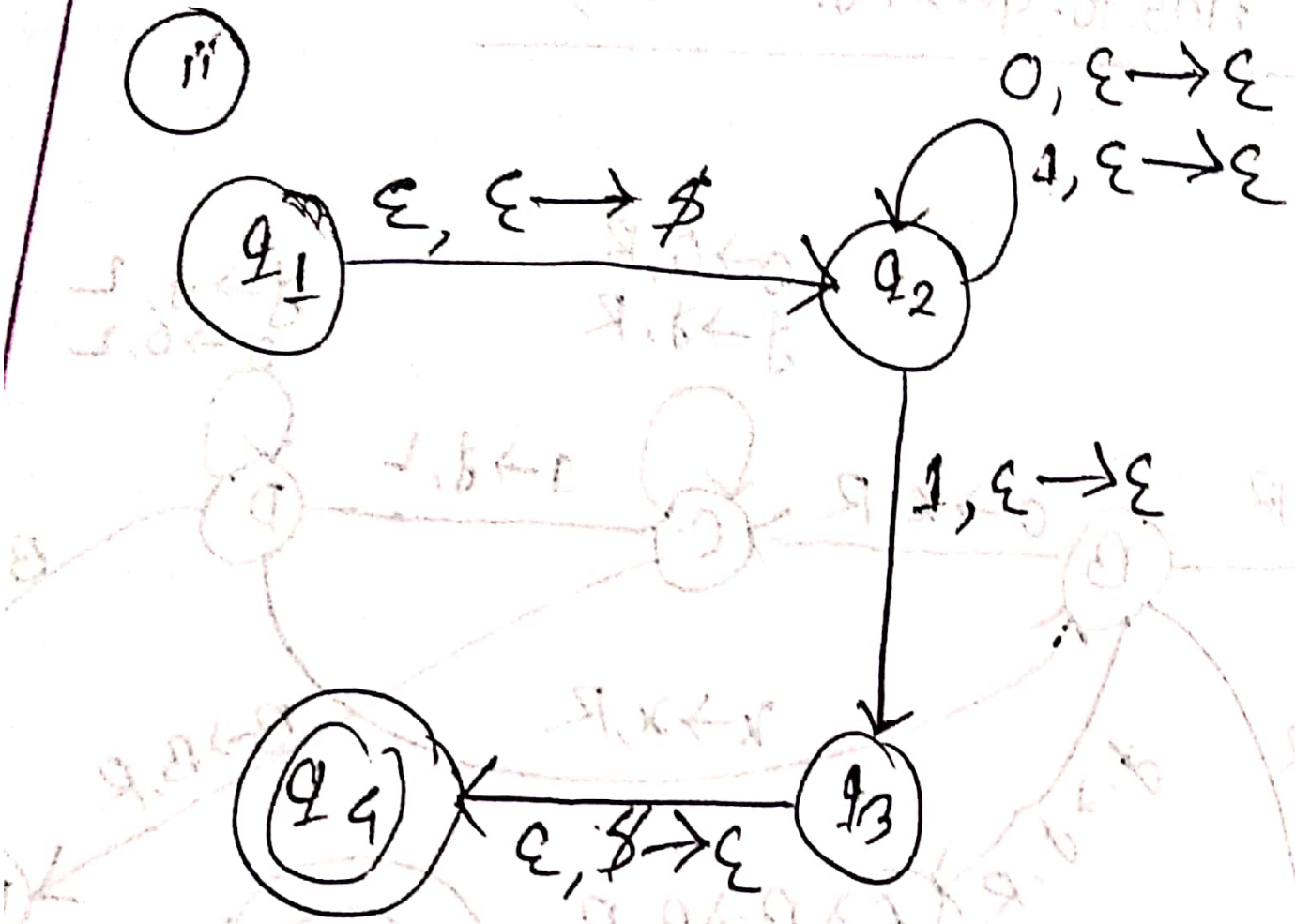
Ans. to Ques. no. – 01(b)



Ans to. Ques. no. – 02(b)

(i)





Ans to. ques. no. -04(a)

(i) $P \rightarrow aPa \mid bPb$

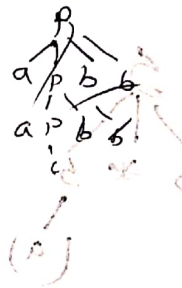
$P \rightarrow Pa$

$P \rightarrow Pb$

$P \rightarrow \epsilon$

(ii) $P \rightarrow aPbb$

$P \rightarrow \epsilon$



(iii)

4-(b) (question No.)

$S \rightarrow S+S$

$S \rightarrow SS$

$S \rightarrow (S)$

$S \rightarrow S*S$

$S \rightarrow a$

string $(a+a)*a$

(i) $S \xrightarrow{LM} (S)$

$\rightarrow (S+S)$

$\rightarrow (a+S)$

$\rightarrow (a+a)$

$\rightarrow$

(i) $S \xrightarrow{LM} S*S$

$\rightarrow (S)*S$

$\rightarrow (S+S)*S$

$\rightarrow (a+S)*S$

$\rightarrow (a+a)*S$

$\rightarrow (a+a)*a$

(ii) $S \xrightarrow{RM} S*S$

$\rightarrow S*a$

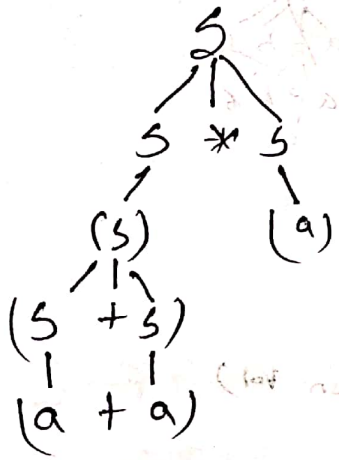
$\rightarrow (S)*a$

$\rightarrow (S+S)*a$

$\rightarrow (S+a)*a$

$\rightarrow (a+a)*a$

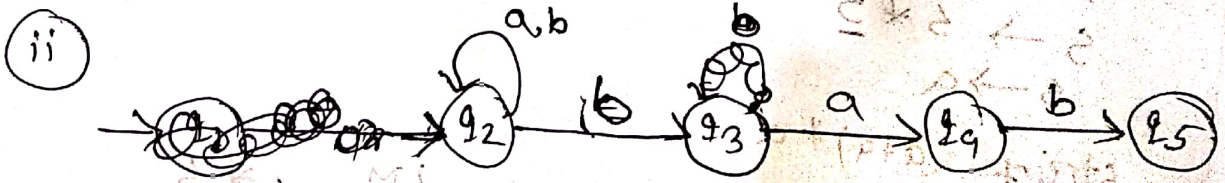
(iii)



Ans to ques no. - 05

(a) (i) $(a+b)^* \cdot bab$

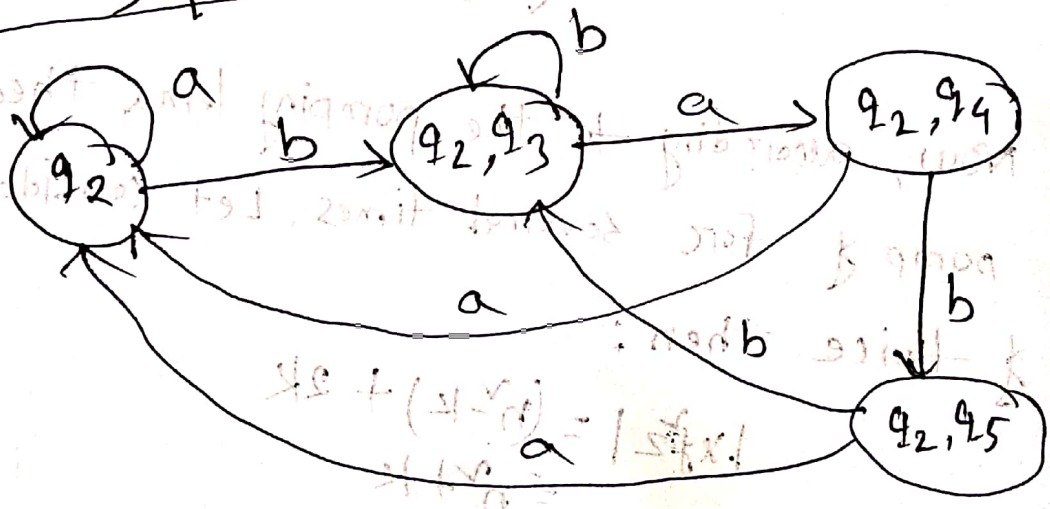
(ii)



NFA

(iii) Transition table:

	a	b
→ q_2	q_2	$\{q_2, q_3\}$
$\{q_2, q_3\}$	$\{q_2, q_4\}$	$\{q_2, q_3\}$
$\{q_2, q_4\}$	$\{q_2\}$	$\{q_2, q_5\}$
$\{q_2, q_5\}$	$\{q_2\}$	$\{q_2, q_3\}$



DFA

Ans to ques no. -05(b)

$a^n b^n c^n$.

Let, the string is = aabbcc ; w=6.

Let, $n = 5 < w$.

Now, Let $xy = 4 < n$

$\therefore \underset{x}{aa}\ \underset{y}{bb}\ \underset{z}{cc}$

where $y \neq \epsilon$.

If we pump y several times, assume that 4 times, then we get aa bbbbbbbb cc. But this is not belong to $a^n b^n c^n$.

Now Let, $xy = 3 < n$

$\therefore \underset{x}{aa}\ \underset{y}{b}\ \underset{z}{bcc}$

where $y \neq \epsilon$.

If we pump y several times, we may get a string like this aababaabbabbcc. But this is not belong to $a^n b^n c^n$.

Now, Let, $xy = 5 = n$

$\therefore \underset{x}{aab}\ \underset{y}{bc}\ \underset{z}{c}$

where $y \neq \epsilon$.

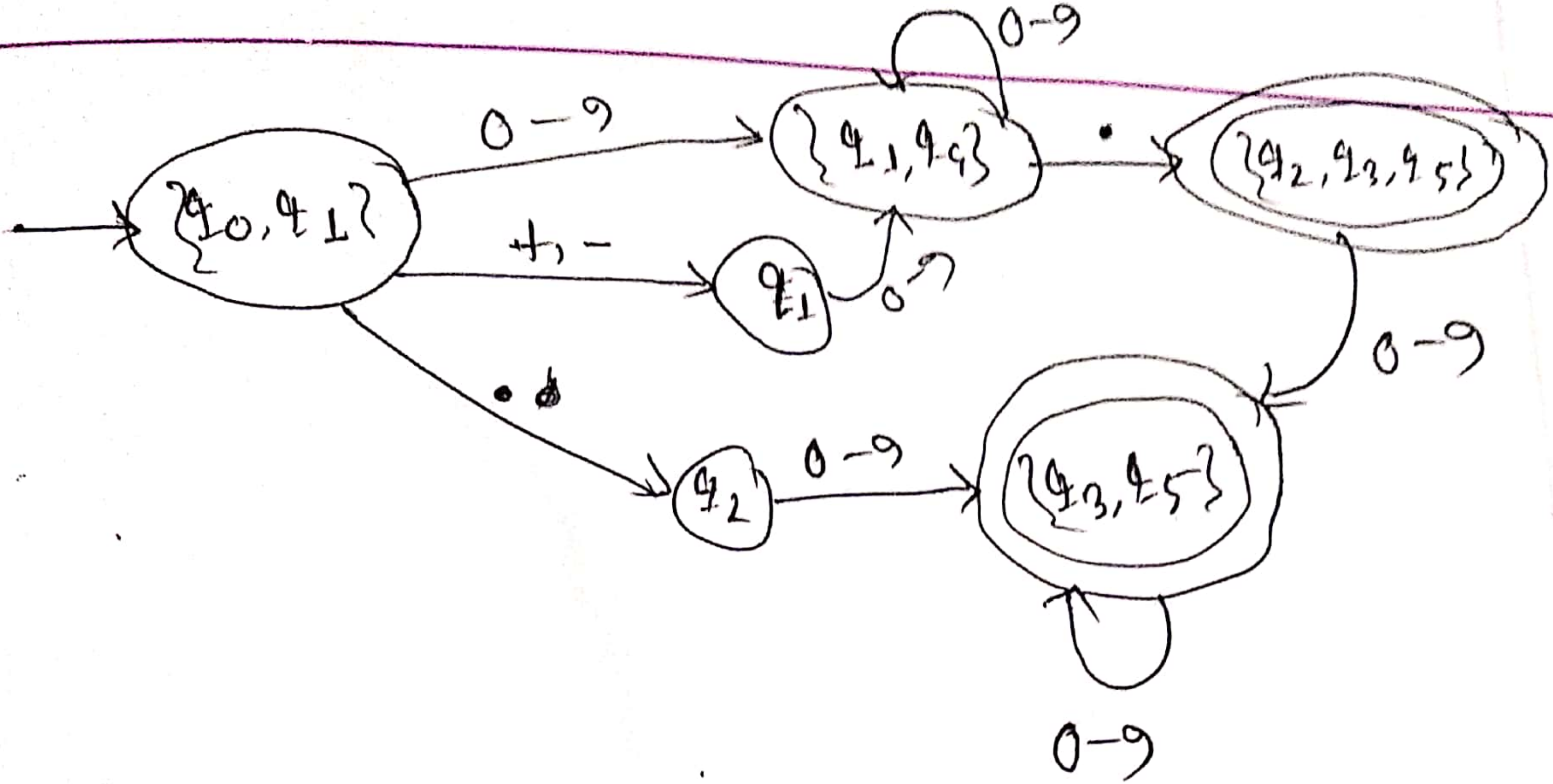
If we pump for several times. we may get aabbbebecbcc. which is not belong to $a^n b^n c^n$.

So, we can say that $a^n b^n c^n$ is not regular.

Ans.to.ques.no.-05(a)(OR)

(i) E-close $(q_0) = \{q_0, q_1\}$

	+	-	0-9	.
$\rightarrow\{q_0, q_1\}$	Eclose(q_1) $=\{q_1\}$	Eclose(q_1) $=\{q_1\}$	Eclose(q_1, q_4) $=\{q_1, q_4\}$	Eclose(q_2) $=\{q_2\}$
$\{q_1\}$	-	-	Eclose(q_1, q_4) $=\{q_1, q_4\}$	Eclose(q_2) $=\{q_2\}$
$\{q_1, q_4\}$	-	-	Eclose(q_1, q_4) $=\{q_1, q_4\}$	Eclose$\{q_2, q_3\}$ $=\{q_2, q_3, q_5\}$
$\{q_2\}$	-	-	Eclose(q_3) $=\{q_3, q_5\}$	-
$*\{q_3, q_5\}$	-	-	Eclose(q_3) $=\{q_3, q_5\}$	-
$*\{q_2, q_3, q_5\}$	-	-	Eclose(q_3) $=\{q_3, q_5\}$	Eclose(q_2, q_3) $=\{q_2, q_3, q_5\}$



ii. Sir class -এ করাছে।

iii. " " -এ " ।