Marks

$\delta^*(1, abb) = \{\text{Accepted}\}$

(2) $\delta^*(1, \lambda) = \lambda(\{1\}) = \{1, 2, 5\}$

(2) + $\delta^*(1, a) = \lambda\left(\bigcup(\delta(k, a) \mid k \in \{1, 2, 5\})\right)$

$= \lambda(\delta(1, a) \cup \delta(2, a) \cup \delta(5, a))$

$= \lambda(\{\} \cup \{3\} \cup \{\}) = \lambda(\{3\}) = \{3\}$ *

(2) $\delta^*(1, ab) = \lambda(\bigcup(\delta(k, b) \mid k \in \{3\}))$

$= \lambda(\delta(3, b)) = \lambda(\{4\})$

$= \{4, 1, 2, 5\}$ *

(2) $\delta^*(1, abb) = \lambda(\bigcup(\delta(k, b) \mid k \in \{4, 1, 2, 5\}))$

$= \lambda(\delta(4, b) \cup \delta(1, b) \cup \delta(2, b) \cup \delta(5, b))$

$= \lambda(\{\} \cup \{\} \cup \{\} \cup \{6, 7\})$

$= \lambda(\{6, 7\}) = \{6, 7, 1, 2, 5\}$

$= \{1, 2, 5, 6, 7\}$

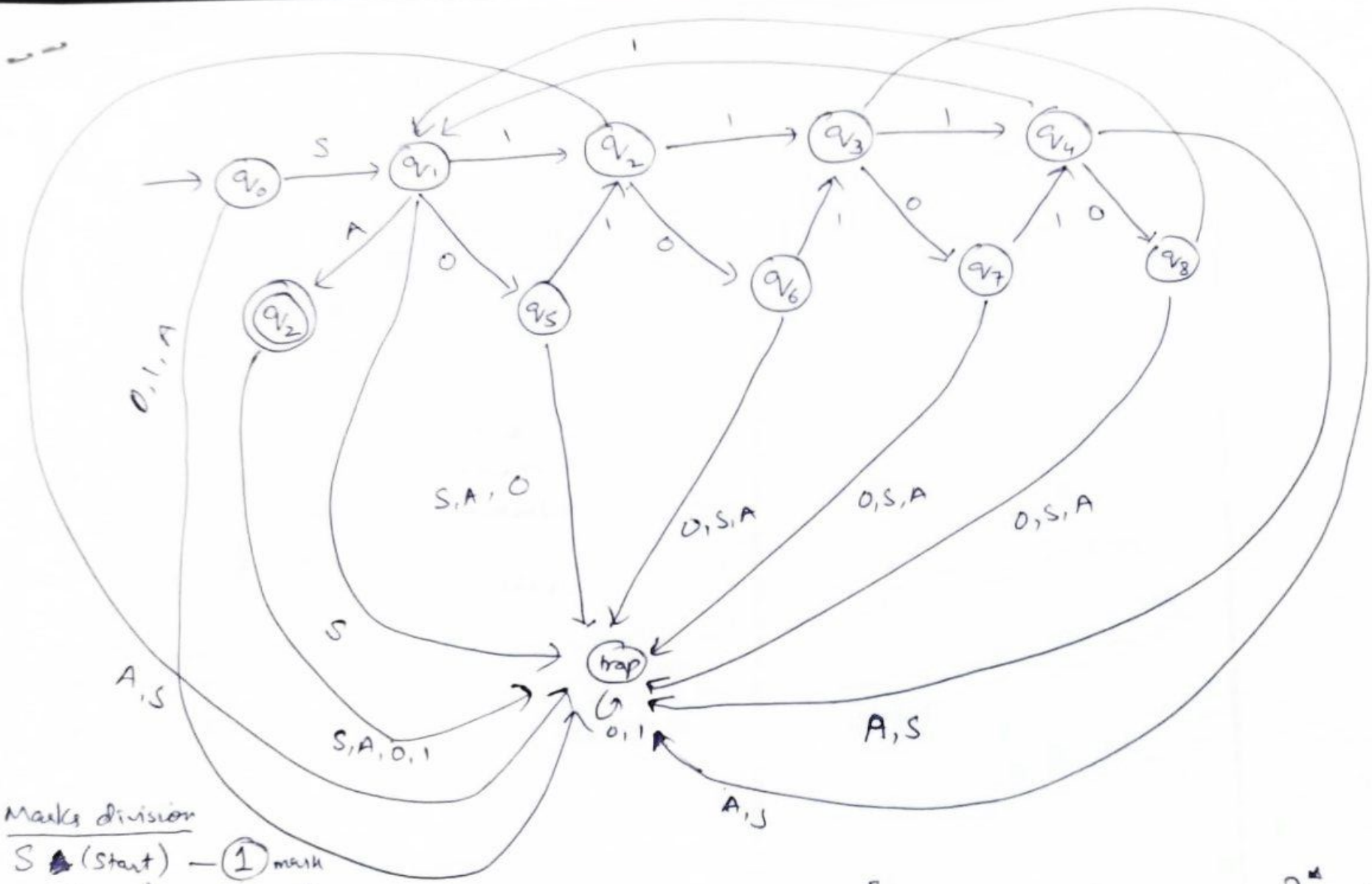
As $1 \in F_n$ so $x \in L(M)$

$\{1, 2, 5, 6, 7\}$

Accept.

2 marks - answer

8 marks - working



Marks division

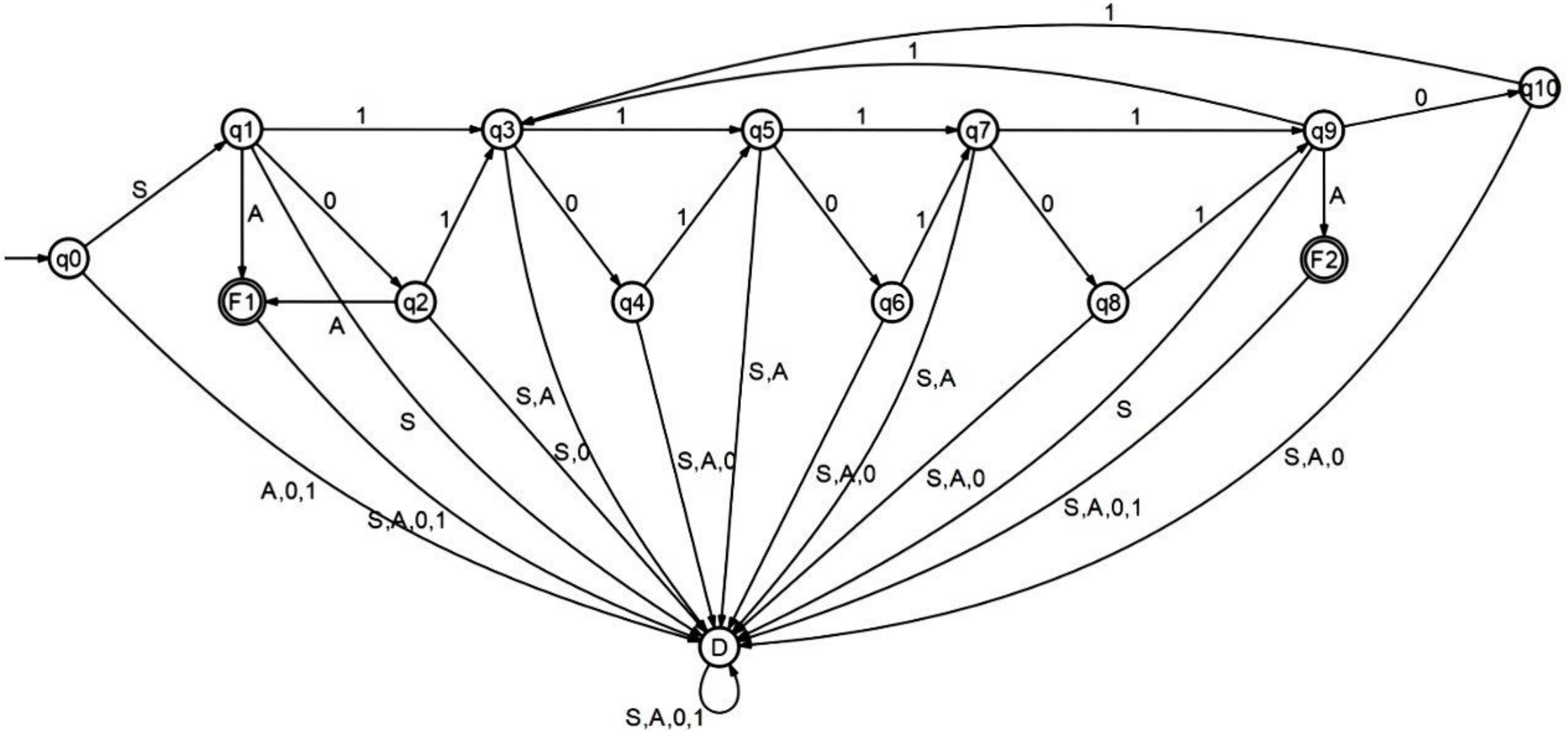
S (Start) — (1) mark

A (End) — (1) mark

divisible by 4 — (4) marks

No Consecutive zeros - (4) marks

R.E : $S\left[(0+\wedge)1(0+\wedge)1(0+\wedge)1(0+\wedge)1\right]^{*}(0+\wedge)A$


q0
q1
q2
q3
q4
q5
q6
q7
q8
q9
q10
F1
F2
D
S
A
0
1
A,0,1
S,A,0,1
S,0
S,A,0
S,A
S,A,0,1