Q.1 Which of the following is/are correct? [MSQ]

$$\delta : Q \times \Sigma \to Q$$
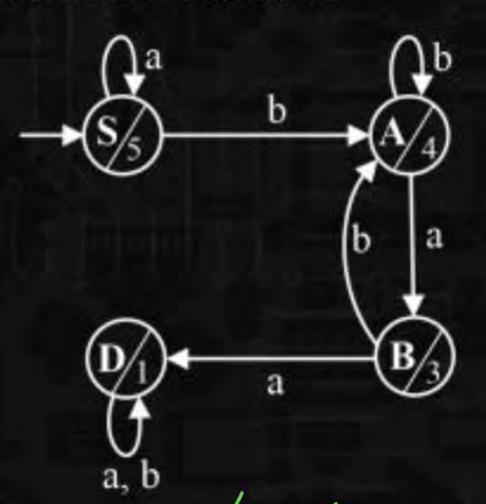
A. Transition function (δ) in mealy machine and moore machine is same.

B. Output function (λ) in moore machine is $\lambda : Q \to \Delta$.

C. Output function (λ) in mealy machine is $\lambda : Q \times \Sigma \to \Delta$.

D. Output is associated with state in mealy machine

Q.2

Consider the following moore machine:

Moore machine:

$$\rightarrow S \xrightarrow{a} S \xrightarrow{b} A \xrightarrow{b} A \xrightarrow{a} B$$
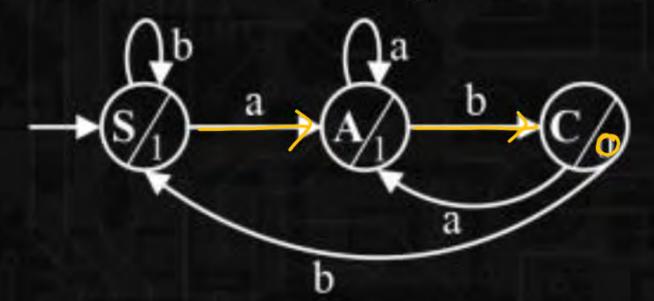$$\quad\quad 5 \quad\quad 5 \quad\quad 4 \quad\quad 4 \quad\quad 3$$

$$A \xleftarrow{b} A \quad 4$$
$$4$$

$$\textcircled{S}544344$$

On input "abbabb" the output will be ___ .

Q.3 Consider the following moore machine: [MCQ]
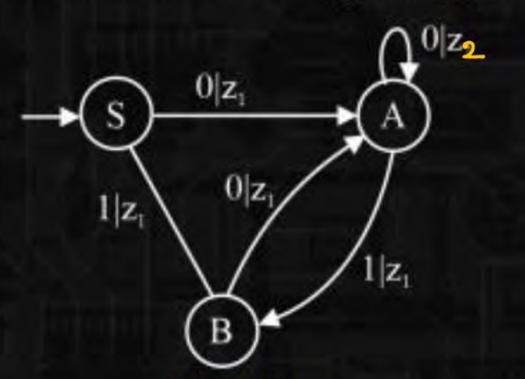

The above moore machine will produce

A. 0 output for every occurrence of bab.

B. 1 output for every occurrence of aa.

C. 0 output for ever occurrence of ab.

D. None of these.

Q.4

Consider the following mealy machine on $\Sigma = \{0, 1\}$

[MCQ]

$$S \xrightarrow{0} A \xrightarrow{1} B \xrightarrow{0} A \xrightarrow{1} B \xrightarrow{0} A \xrightarrow{0} A$$
$$\quad z_1 \quad\quad z_1 \quad\quad z_1 \quad\quad z_1 \quad\quad z_1 \quad\quad z_2$$

For input "010100" what will be the output?

A. $z_1 z_1 z_1 z_1 z_1 z_2$.

B. $z_1 z_2 z_1 z_2 z_1 z_2$.

C. $z_1 z_2 z_1 z_2 z_1 z_2$.

D. None of these.

Q.5

Consider the following statements:

S_1: Mealy machine and moore machine both are equivalent.

S_2: For n length input moore machine produces $(n + 1)$ length output. *(one length o/p symbol is associated with state)*

Which of the following is correct?

A. S_1 only.

B. S_2 only.

C. Both S_1 and S_2 are correct.

D. None of these.

THANK YOU GW SOLDIERS !