**UNITED INTERNATIONAL UNIVERSITY**
Department of Computer Science and Engineering (CSE)

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| **Course Title: Theory of Computation** | **Course Code: CSE 2233** | **Credit Hours: 3.0** |
| **Trimester & Year: Fall 2021** | **Section: A** | **AZ** |

# CT-02

Total Marks: 20 Time: **40** min

**1.** Convert the following NFA to DFA. **5**

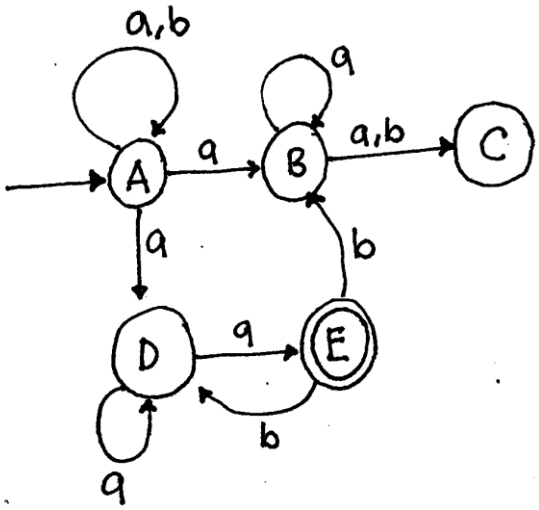


**Figure 01: State Diagram**

**2.** A DFA is defined over alphabet $\sum = \{m, n\}$ which accepts all the strings w of the Language L where

L = {w | w contains at least one '1' and even number of '0' follows the last '1'}. **5**

a. Construct the state diagram of the DFA.
b. Write down three strings that will be accepted by the DFA

**3.** A DFA is defined over alphabet $\sum = \{0,1\}$ which accepts all the binary number which is divisible by 4 or ends with "0101". **9 + 1**

a) Construct the state diagram of the DFA.
b) Write down three strings that will be accepted by the DFA.