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

Course Title: Theory of Computation | **Course Code: CSE 2233** | **Credit Hours: 3.0**

Trimester & Year: Fall 2023 | **Section: F, G** | **MdMH**

CT-01

Total Marks: **10** Time: **25** min

1. Write a **Formal definition** of the DFA including the **transition table** by using the state diagram given in Figure 01. The DFA has been constructed over alphabet, $\sum = \{a, b\}$. **2**

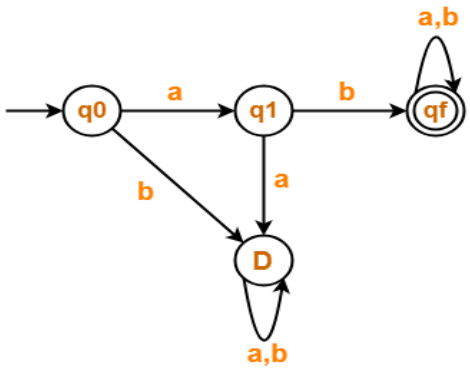

Figure 01: State Diagram

2. Construct a **DFA** defined over alphabet $\sum = \{a,b,c\}$ that accepts all the strings w of the Language L where, **5**

L = {w | w starts with **'ac'** and contains **'abc'** or **'bcc'** and ends with **'ba'**}.

3. Design a **DFA** that accepts the Language, L over alphabet $\sum = \{0, 1, 2\}$ **3**

L = { w | w starts and ends with different symbols }.