**IQRA NATIONAL UNIVERSITY, PESHAWAR**

# Compiler Construction

## Program: BSCS Major Assignment Semester: Fall-2020

## Maximum Marks: 30 ODD ROLL NUMBERS Time Allowed: 3 hrs

* 1. **Construct regular expression defining each of the following language over the alphabet Σ={a, b} .**
     1. **All words having odd length**
     2. **All words having at least two as and two bs**
     3. **All words having at least triple a or double b**
     4. **All words starts with double a or triple b. (10)**
  2. **For figure 3 if q0 is the initial state, the draw a transition table for it. (5)**
  3. **Define what is Finite Automaton. What can be the regular expression of the diagram given in figure 1. (5)**
  4. **Draw a transition table for the diagram given in figure 2. (0) is the starting state and (dotted lines) are the dead transition states which can be ignored. (10)**

**Figure 1:**

y

a

x **–**

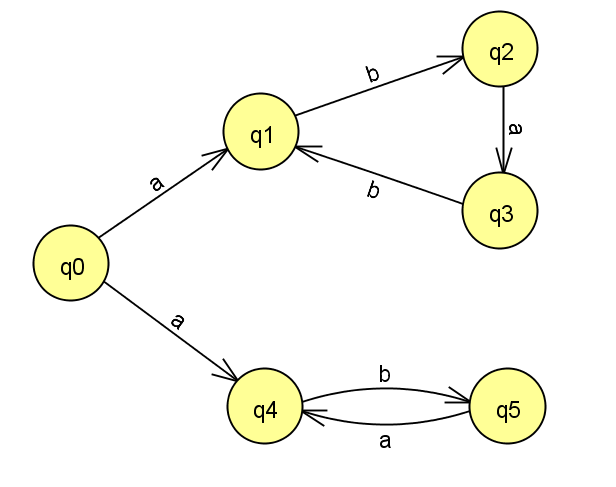
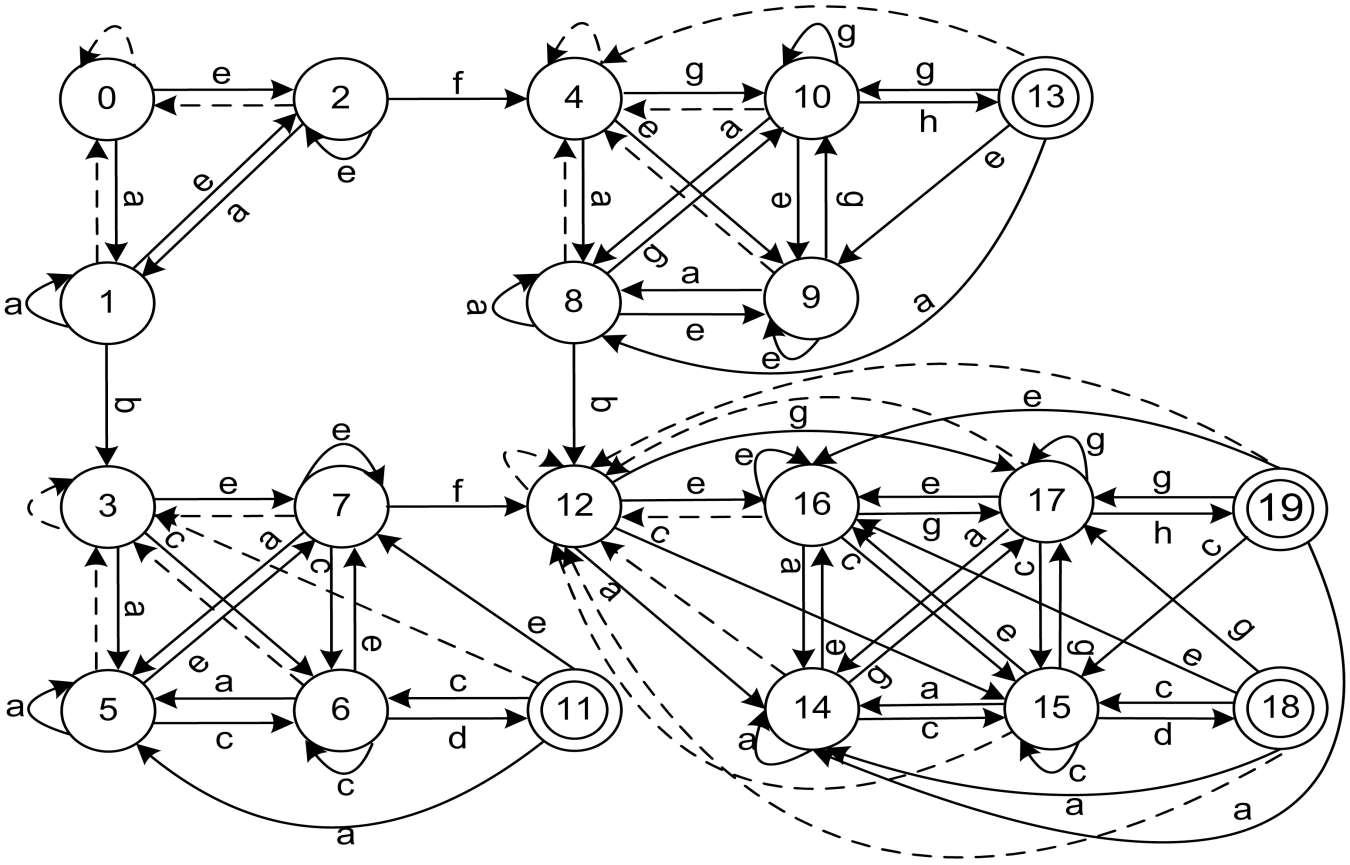
b

Z+

a,b

a,b

**Figure 2:**



**Figure 3**