Course Name: A Level (1st Sem)   **Subject: CO**

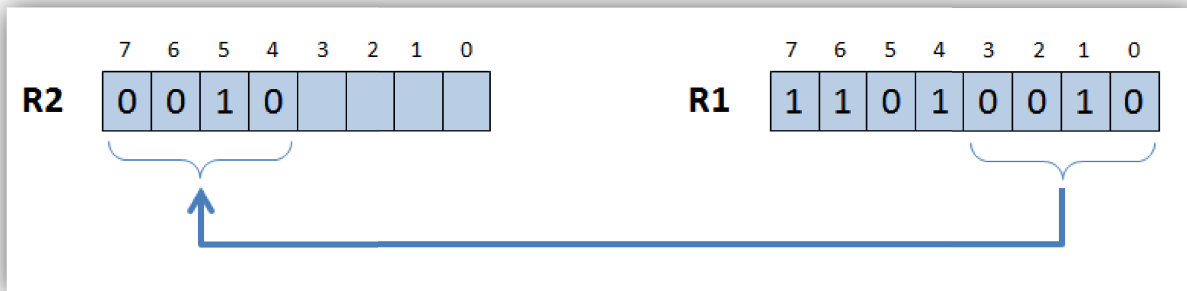**Topic: Register Organization contd.**   **Date: 15-05-20**

Register Transfers:

1. **Complete transfer:** Complete Register Transfer can be denoted by the following way:
   Here content of Register R1 gets transferred to Register R2.

   $$R2 \leftarrow R1$$

2. **Partial transfer:** Partial Register Transfer can be denoted by the following way:
   Here 0th to 3rd bits of Register R1 getting transferred to 4th to 7th bits of Register R2.

   $$R2(4-7) \leftarrow R1(0-3)$$

3. **Conditional Register Transfer:** Conditions in Register Transfer simply depict that the transfer takes place only when the appropriate condition becomes TRUE. It can be denoted by the following way:

   $$C: R2 \leftarrow R1$$

   or

   Here contents of **Register R1** get transferred to **Register R2** when **Condition C** becomes TRUE or "1".

   or

   ```
   if (c==1)
   {
   R2=R1;
   }
   ```

For Ex.: Consider the following expression-

$$T: R2 \leftarrow R1 , R3(0-3) \leftarrow R4$$

It is a conditional operation, Here, Two register operations:

$$R2 \leftarrow R1 \qquad \& \qquad R3(0\text{-}3) \leftarrow R4$$

are being performed simultaneously when T input equals to "1".

<u>Assignments:</u>

a. What is difference between a complete transfer and a partial transfer?
b. Explain conditional transfer along with an example.