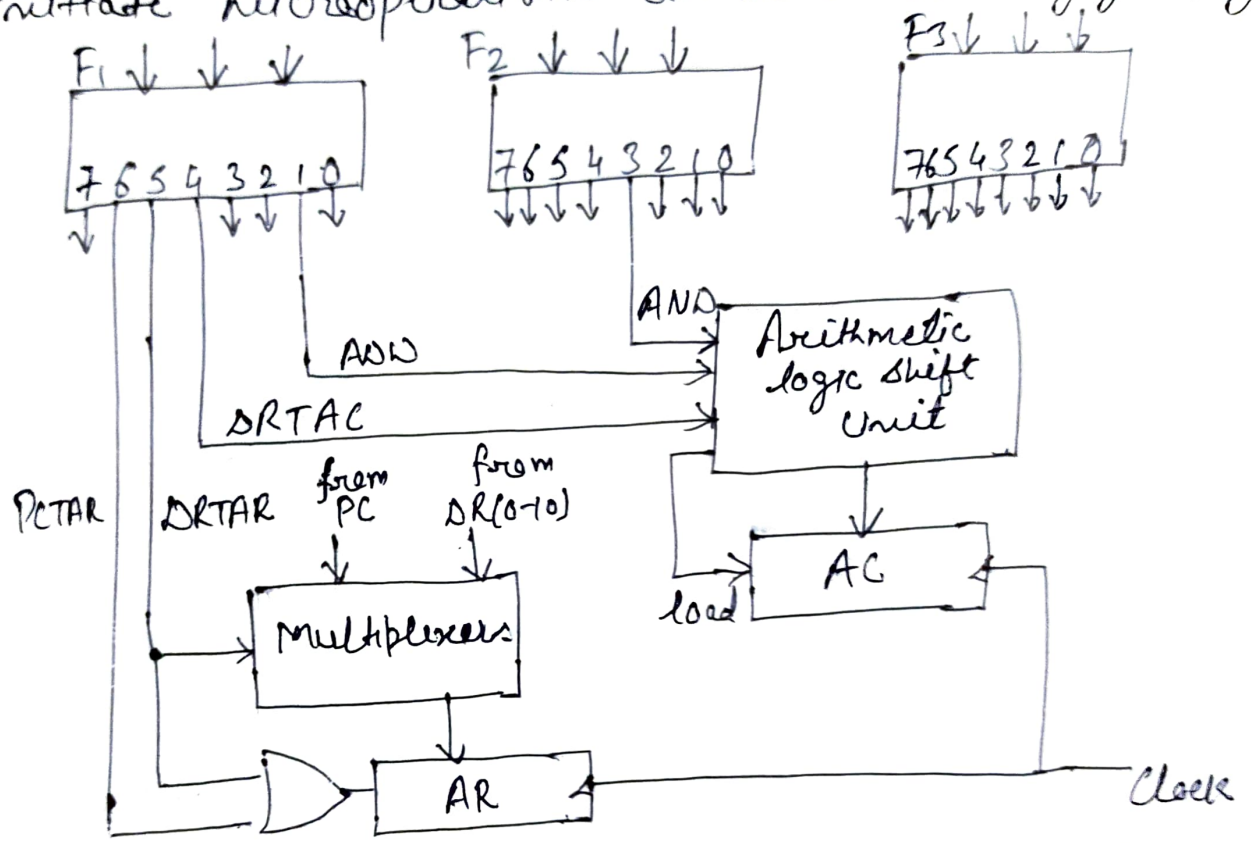
Design of Control Unit :-

The bits of the microinstruction are usually divided into fields, with each field defining a distinct, separate function. The number of control bits that initiate microoperations can be reduced by grouping.



* Each of the 3 fields of the micro instruction presently available in the o/p of the control memory are decoded with a 3×8 decoder to provide 8 o/p's.
* Each of these o/p's must be connected to the proper circuit to initiate the corresponding microoperations from the table F_1, F_2, F_3, CD, BR, AD.

  e.g If F_1 is 101, transfer the content of DR to AR

  Illy when F_1 is 110, there is transfer from PC to AR.

*. The transfer into AR occurs only when the o/p 5 or o/p 6 of the decoder are active. o/p's 5 and 6 of decoder F_1 are connected to the load I/P of AR so that when either one of these output is active,

Information from DR when output 5 is active and from PC when output 5 is inactive.