UGC NET 2018

Consider the following statements:
(i) Auto increment addressing mode is useful in creating self-relocating code.

(ii) If auto increment addressing mode is included in an instruction set architecture, then an additional ALU is required for effective address calculation.

(iii) In auto increment addressing mode, the amount of increment depends on the size of the data item accessed.

Which of the above statements is/are true? Choose the correct answer from the code given below:
Code:
(a) (ii) and (iii) only
(b) (iii) only
(c) (ii) only
(d) (i) and (ii) only

Solution:

Addressing modes:

Addressing modes are the ways through which operands are specified.

The address field in a typical instruction formats are relatively small.



Instruction Format

This address field is used to reference the operand in the memory.

Auto increment addressing mode:

Autoincrement mode is similar to register deferred mode in that the address of an operand is stored in a register at runtime. The contents of the register are incremented each time the instruction is performed in autoincrement mode.

Option (iii) is correct, because

In this mode the address where next data block to be stored is generated automatically depending upon the size of single data item required to store.

Autoincrement Mode = after operand addressing , the contents of the register is incremented.

Option (i) is not correct, because

Self – relocating code takes always some address in memory and hence auto – increment addressing mode is not used for self – relocating code.

Option (ii) is not correct, becuase

Additional ALU is not required for effective address calculation if auto addressing mode is included in an instruction set architecture.

To know moe about addressing modes : click here.

Related posts:

1. Value for which system never enters into deadlock is | UGC NET
2. Dirty bit is used to show | UGC NET
3. Process in Main Memory and Ready and Waiting for execution is kept on | UGC NET