**SET A- PART B**

1. **Find the output for the following statements after performing two rounds of operations.**

**RCL A; where A holds the value of AAh and CY holds the value as 0**

**RRC a; where A holds the value of 81h and CY holds the value as 0**

Output:

A = D7 D6 D5 D4 D3 D2 D1 D0

1. //before the instruction

A = 10101010; CY=0

//after 1st RLC

A = 01010101; CY=1

//after 2nd RLC

A = 10101010; CY=0

2. //before the instruction

A = 10000001; CY=0

//after 1st RRC

A = 11000000; CY=1

//after 2nd RRC

A = 01100000; CY=0

**2. Represent the arithmetic statement Z= (A+B)/ (C-D\*E) in one and three address instructions formats.**

Three address instructions:

ADD R1, A, B

SUB R2, C, D

MUL R2, R2, E

DIV X, R1, R2

One address instruction:

LOAD A

ADD B

STORE T

LOAD C

SUB D

MUL E

DIV T

STORE X

**3. List Processing modes of ARM processor used to run given task?**

* User mode is the usual ARM program execution state, and is used for executing most application programs.
* Fast Interrupt (FIQ) mode supports a data transfer or channel process.
* Interrupt (IRQ) mode is used for general-purpose interrupt handling.
* Supervisor mode is a protected mode for the operating system.
* Abort mode is entered after a data or instruction Prefetch Abort.
* System mode is a privileged user mode for the operating system