**Section – A**

**Q1.** Fill in the blanks/True-False (1 X 5 = 5 Marks)

1. IR holds the current instruction
2. How many bits is a byte…………………………..
3. GPU stands for ……………………………………….
4. PC holds the address of the current instruction.
5. MAR stands for ...............................................

**Q2**. Attempt any five. (Write Short Notes) (3 X 5 = 15 Marks)

1. Classification of instruction
2. Basic Operational concepts of computer system.
3. Register Transfer Language.

d) The Bus structure

e) Interrupt and their types.

f) Circular right Shift and athematic left shift micro operation

**Section – B**

Each question contains three parts a, b & c. Attempt any two parts of choice from each question.

**Q3.** (5 X 2 = 10 Marks)

**a.** What is the difference between the Hardwired Control Unit and the Micro-programmed Control Unit?

**b.** Multiply (+8) and (-9) using Booth’s Multiplication Algorithm.

**c.** What are shift micro operations? Explain various shift micro operations in detail.

**Q4.** (5 X 2 = 10 Marks)

**a.** What is the difference between RISC and CISC?

**b.** An instruction is stored at location 500 with its address field at location 501. The address field has the value 300. A processor register R1 contains the number 100. Evaluate the effective address if the addressing mode of the instruction is

(i) Direct

(ii) Relative

(iii) Register indirect

(iv) Index with R1 as lndex register

Make suitable assumptions if any

**c.** What is the difference between multicomputer and multiprocessor? Explain in detail

**Q5.** (5 X 2 = 10 Marks)

1. Draw and explain basic structure of CPU in detail.
2. Explain Instruction cycle with the help of flow chart.

**c.** What are addressing modes? Explain various addressing modes.