

(3 hours)

Total Marks: 80

- N.B.**
1. Question No. 1 is compulsory
 2. Attempt any three questions from remaining five questions
 3. Assume suitable data if necessary and justify the assumptions
 4. Figures to the right indicate full marks.

Q1	A	Convert	05
		i) 147 in to binary	
		ii) $(23A)_{16}$ in to Decimal	
		iii) $(135)_8$ in to decimal	
		iv) 234 in to BCD	
		v) 23 in to gray code	
	B	Write a short note on Encoder	05
	C	Differentiate between Hardwired control unit and Micro programmed control unit	05
	D	Differentiate between SRAM & DRAM	05
Q2	A	Draw the flow chart of Non Restoring division algorithm and Perform $4 \div 2$	10
	B	Explain Flynn's classification	10
Q3	A	Explain the instruction cycle with the help of a neat state diagram	10
	B	Explain the various addressing modes	10
Q4	A	Using booth's algorithm perform -5×-3	10
	B	Represent -786.25 using IEEE 754 standards (both single and double precision format)	10
Q5	A	Explain different memory Mapping Techniques	10
	B	List & Explain the Characteristics of Memory	05
	C	What do you mean by cache coherence	05
Q6	A	Draw and explain 4 stage instruction pipelining and briefly describe the hazards associated with it	10
	B	Describe various Bus Arbitration methods	10
