M-59/2110 10822/N

Total Number of Sheets Used: 1 **Total Number of Questions:** 9
Title of the Paper: Computer Organization and Architecture (PGDCA-104)
Maximum Marks: 70 **Minimum Pass Marks: 35%**

Note: Candidates are required to attempt five questions in all, selecting two questions each from sections A and B and entire section C.

Section - A

Q1.	What is meant by Instruction cycle, Machine cycle and interrupt cycle? Explain in brief.	10.5
Q2. (a)	Draw and explain Full Adder.	5
(b)	Explain the operation of JK flip-flop using NAND gate.	5.5
Q3.	Minimize and realize following logic functions using K-map $f(A,B,C,D) = \sum m(0,1,2,5,8,9,10)$	10.5
Q4.	Explain various types of addressing modes with examples.	10.5

Section - B

Q5. (a)	Explain the difference between hardwired control and microprogrammed control. Is it possible to have a hardwired control associated with a control memory?	6
(b)	What are the advantages and disadvantages of hardwired and microprogrammed control?	4.5
Q6.	What is the need for cache memory? List the three mapping methods of cache memory and explain any two.	10.5
Q7.	With a neat sketch explain the working principle of DMA	10.5
Q8.	Draw and explain the block diagram of 8085 microprocessor.	10.5

Section - C

Q9. (a)	What are the inputs for hardwired control?	3
(b)	Distinguish between auto increment and auto decrement addressing mode.	3
(c)	Compare RISC with CISC architecture.	3
(d)	Differentiate between flip flop and latch.	3
(e)	What is the use of microprocessor 8085?	3
(f)	What are the differences between interrupt driven IO and DMA Direct Memory Access?	3
(g)	What is instruction code and opcode?	3
(h)	What is the difference between ripple counter and synchronous counter?	3
(i)	What is the difference between RS and SR flip flop?	2
(j)	How many laws are in Boolean algebra?	2