

Q.P. Code :23709

[Time: Three Hours]

[ Marks:80]

Please check whether you have got the right question paper.

- N.B:
1. Question.No.1 is compulsory.
  2. Solve any **three** questions out of remaining five questions.
  3. Assume suitable data if necessary
  4. Figures to right indicate marks

**Q. 1** Solve **any four** out of five.

- a) Write a note on Computer evolution. (05)
- b) Draw and explain 6 stage instruction pipeline. (05)
- c) What are the various functions performed by I/O module? (05)
- d) Differentiate between SRAM & DRAM. (05)
- e) Represent  $(5.125)_{10}$  in IEEE 754 single precision floating point standard. (05)

**Q. 2** a) Multiply (- 5) and (2) using Booth's Algorithm. (10)  
b) Discuss various pipeline hazards with example (10)

**Q. 3** a) Explain the register organization of a CPU (10)  
b) Consider the string 8,3,9,4,9,8,5,8,3,9,6,7,5,4,3,9,4,9,3 Find the page faults for 3 frames using FIFO, Optimal, & LRU page replacement policies (10)

**Q. 4** a) Divide 4 by 2 using non restoring division algorithm. (10)  
b) Explain Flynn's classification in detail. (10)

**Q. 5** a) Discuss the various characteristics of Memory. (10)  
b) Explain design of control unit w.r.t. microprogrammed and hardwired approach. (10)

**Q. 6** a) Explain different addressing modes with example (10)  
b) What is the need of DMA? Explain its various techniques of data transfer. (10)

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