Total No. of Questions : 12]

SEAT No. :

P644

[Total No. of Pages : 2

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S.E. (Computer Engineering) (Semester - II)

COMPUTER ORGANIZATION

(2008 Course)

Time :3 Hours] *[Max. Marks :100*

Instructions to the candidates:-

1) ***Answer any three questions from each section.***
2) ***Answers to the two sections should be written in separate books.***
3) ***Neat diagrams must be drawn wherever necessary.***
4) ***Figures to the right indicate full marks.***

SECTION - I

Q1) a) Draw and explain Von Neumann Architecture. **[8]**

b) Draw the hardware implementation of Booth's Algorithm and explain the same. **[8]**

OR

Q2) a) Draw the flow chart for restoring division algorithm. **[8]**

b) Represent the following numbers in single precision floating point format 141.625. **[8]**

Q3) a) Draw and explain CPU Architecture of INTEL Processor. **[8]**

b) Explain any four addressing modes along with one example each. **[8]**

OR

Q4) a) Draw and explain the Pentium register organization. **[8]**

b) Explain the instruction cycle state diagram in detail. **[8]**

Q5) a) Explain the applications of microprogramming in detail. **[8]**

b) With the help of circuit diagram, explain how Zin and END signals are generated. **[10]**

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OR

Q6) a) What are the various bus organization of the CPU. Explain in brief. **[10]**

b) Write the control sequence for the following instruction: **[8]**

MOV (R3)+, R1

SECTION - II

Q7) a) Explain the set associative and associative mapping of cache memory organization with example. **[8]**

b) State and explain different page replacement algorithm? **[8]**

OR

Q8) a) Describe the use of MESI protocol along with meaning of each of the four states in the protocol. **[8]**

b) Explain briefly : **[8]**

i) Cache coherence ii) Virtual memory

Q9) a) Explain any two techniques for performing IO and compare them. **[8]**

b) Draw and explain synchronous timing diagram for write cycle. **[8]**

OR

Q10) a) What is an interrupt? Explain different classes of interrupt. **[8]**

b) Explain the working of interrupt driven I/O operation. **[8]**

Q11) a) Explain closely coupled and loosely coupled multiprocessor configuration in detail. **[10]**

b) What is bus arbitration? Explain Daisy chaining in detail. **[8]**

OR

Q12) a) What are the ways of implementing parallel processors? Explain. **[6]**

b) Describe the super scalar architecture features. **[6]**

c) Explain symmetric multiprocessors(SMP). **[6]**

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