GANPAT UNIVERSITY
B. TECH SEM.V ELECTRONICS & COMMUNICATION ENGINEERING
EXAMINATION NOV/DEC-2011
EC 506: COMPUTER ORGANIZATION

TIME: 3 HOURS

TOTAL MARKS: 70

INSTRUCTIONS:
1. Attempt all questions.
2. Answers to the two sections must be written in separate answer books.
3. Figures to the right indicate full marks.
4. Assume suitable data, if necessary.

SECTION-I

1. (A) Draw the block diagram of synchronous DRAM and explain its working with the help of a timing diagram. **6**
   (B) Explain IEEE single precision floating point format. Convert 1/16 to single precision floating point format. **6**

OR

1. (A) Explain memory interleaving and discuss its advantages. **6**
   (B) Write short note on optical disks. **6**

2. (A) Explain the use of memory controller in DRAM. **5**
   (B) Compare CISC versus RISC characteristics. **5**
   (C) Differentiate between "page fault" and "miss". **2**

OR

2. (A) Discuss virtual memory organization and how virtual address is translated to physical address. **6**
   (B) Explain the block diagram of control unit and list the various inputs and outputs. **4**
   (C) Differentiate between Rambus memory and DDR SDRAM. **2**

3. (A) Explain set-associative mapped cache. **6**
   (B) Discuss memory hierarchy with respect to speed, size and cost. **5**

SECTION-II

4	**(A)**	Explain the variable format sequencing technique of microprogrammed control unit.	6
	(B)	Explain with a diagram the functions of a microprogrammed control unit.	6

OR

4	**(A)**	What is the difference between the hardwired implementation and microprogrammed implementation of a control unit?	6
	(B)	Explain instruction pipelining and discuss its advantages	6

5	**(A)**	Explain programmed I/O and interrupt driven I/O.	4
	(B)	Give the advantages of fire wire serial bus.	2
	(C)	What is PCI? Give its advantages and explain the PCI read operation in detail.	6

OR

5	**(A)**	What is InfiBand? Give its advantages & explain its architecture.	6
	(B)	What is the relationship between instruction and micro-operation?	2
	(C)	What is DMA? Explain the different configuration of DMA.	4

6	**(A)**	Explain the different modes of 8259C? How many 8259C ICs are required for 50 I/O devices?	4
	(B)	Draw and explain the I/O channel architecture.	4
	(C)	Draw and explain the basic block diagram of I/O module.	3

End of Paper