

NOV-DEC
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Total No. of Questions—12]

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[3862]-219

S.E (Computer Engineering) (Second Sem.) EXAMINATION, 2010

COMPUTER ORGANIZATION

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

N.B. :— Answer any *three* questions from Section-I and *three* questions from Section-II.

SECTION I

1. (a) With neat diagram explain in detail functional units of computer system. [8]
- (b) Perform division of the following number using restoring and non-restoring algorithm : [10]
dividend = 1011
divisor = 0011.

Or

2. (a) Multiply the following pair of signed two's complement numbers using Booth's Algorithm : [8]
Multiplicand = 110011
Multiplier = 101100.
- (b) Represent the following numbers into single precision and double precision format : [10]
(i) 309.1875
(ii) 178.1875.



P.T.O.

3. (a) Explain with suitable example how the size of the control words can be reduced to obtain small store. [8]

(b) Write control sequence for the execution of the following instruction : [8]

CALL SUB1

Or

4. (a) Give the comparison between : [8]

(i) Hardwired and Micro-programmed control.

(ii) Horizontal and Vertical Microinstructions.

(b) Explain briefly :

(i) Delay-element method [4]

(ii) Explain applications of Micro-Programming. [4]

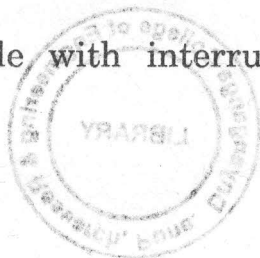
5. (a) Explain register organization of 8086. [8]

(b) List and explain various ways in which an instruction pipeline can deal with conditional branch instructions. [8]

Or

6. (a) Discuss in detail instruction formats of INTEL/MOTOROLA processor. [8]

(b) Explain instruction cycle. How will you represent instruction cycle with interrupts ? Explain. [8]



SECTION II

7. (a) What is virtual memory concept ? Explain the role of TLB in virtual memory organization. [8]
- (b) Explain in brief the following secondary storages : [10]
- (i) DAT
 - (ii) RAID
 - (iii) CDROM
 - (iv) DVD.

Or

8. (a) Explain cache coherence strategies. [8]
- (b) Explain how a memory address is mapped into a cache memory address using set associative mapped cache. The main memory is 64 K words, the cache memory has 2048 words with block size of 128 words. (use 2-way set associative memory technique). [10]

9. (a) Explain synchronous and asynchronous bus in an input operation with timing diagram. [8]
- (b) Explain programmed I/O and interrupt driven I/O. [8]

Or

10. (a) Explain in detail DMA data transfer modes. [4]
- (b) Explain in detail how scheduling and memory management is done by operating system with its types. [8]
- (c) Explain : SCSI. [4]

