Digital Computer Fundamentals

2008 January

Science Information Technology

FYBSc-IT

Semester 1

University Exam

University of Mumbai

B SC IT - SEM I   Jan - 2008

Digital computer fundamental

Con. 299-08.   TT-835

(3 Hours)   [Total Marks : 100

N.B. (1) Question No. **1 is compulsory.**
(2) Attempt any **four** questions from question Nos. 2 to 7.

1. (a) Explain the instruction classification in case of 8085 Microprocessor.   10
   (b) Explain data transfer operation in case of fetch cycle, indirect cycle and interrupt   10
       cycle with suitable diagrams.

2. (a) What is instruction pipelining ? Explain six stage instruction pipelining with suitable   8
       timing diagram.
   (b) What is Stack ? Differentiate between PUSH and POP instructions.   8
   (c) What is microprocessor ? Write its Application.   4

3. (a) Write a short note on cache memory. Explain its structure with respect to main memory.   8
   (b) Explain PCI BUS Structure.   8
   (c) Differentiate between Call and RET instructions.   4

4. (a) What is RAID memory ? Explain different levels in RAID memory   10
   (b) Explain memory management techniques and methods.   10

5. (a) What is multiprogramming ? Define scheduling with different types of scheduling.   10
   (b) With suitable diagram. Explain Hardware and Programming model in case of   10
       8085 Microprocessor.

6. (a) Explain the Computer structure and it's functions.   8
   (b) Explain the PCI BUS Arbitration.   10
   (c) Define Opcode and Operand.   2

7. (a) Differentiate between memory mapped I/O and isolated I/O.   6
   (b) Write a short note on DMA.   6
   (c) What is an operating system. Explain its functions in different area.   8