Digital Computer Fundamentals

2010 May

Science Information Technology

FYBSc-IT

Semester 1

University Exam

University of Mumbai

Digital Computee Fundamental

(3 Hours)   [Total Marks : 100

N.B. (1) Question No. **1** is **compulsory**.
(2) Attempt any **four** questions from Question Nos. **2** to **7**.
(3) Draw **neat** diagrams wherever **necessary**.

(a) Explain 8085 architecture in detail.   10
(b) Explain the instruction classification of 8085 according to functions and word size.   10

(a) Explain the basic functions of a computer with diagram.   8
(b) Explain instruction cycle with interrupt.   6
(c) Differentiate between CALL and RET instruction.   6

(a) What is RAID Memory ? Explain different levels of RAID with advantages and   12
disadvantages.
(b) Explain the various parallel processor organisations.   8

(a) What is an operating system ? Explain its functions in different areas.   8
(b) Explain the various process states.   6
(c) Explain the operation of DMA.   6

(a) Explain the structure of I/O module.   8
(b) What is scheduling ? Explain the different types of schedulers.   8
(c) What is Dead Lock ?   4

(a) What is mapping ? Explain mapping techniques of Cache Memory.   10
(b) Explain 8085 progarramming model.   8
(c) What is Multiprogramming ?   2

(a) Explain PUSH and POP instructions.   8
(b) What is Instruction Pipelining ? Explain six stages instruction pipelining with suitable   8
timing diagram.
(c) Explain Bus Arbitration.   4