

# END TERM EXAMINATION

FIRST SEMESTER [MCA] DECEMBER 2010

Paper Code: MCA101

Subject: Fundamentals of Information Technology

Paper ID: 44101

Time : 3 Hours

Maximum Marks : 60

Note: Q.1 is compulsory. Attempt one question from each unit.

- Q 1 (a) Explain the terms:- (2x5=10)  
(i) Processor Speed (ii) Bandwidth (iii) Raster Scan Display  
(iv) Plotters (v) Linker  
(b) What is Cache Memory? What's the meaning of cache memory? Explain briefly the types of cache memory? (5)  
(c) Why threads are referred as mini-process or light weight process? (5)

## UNIT-I

- Q2 Differentiate between:- (2x5=10)  
(a) Compiler and Interpreter  
(b) Multitasking and Multiprogramming  
(c) Sequential and Random Access  
(d) Analog and Digital Signal  
(e) Low Level Languages and High Level Languages
- Q3 (a) Define Operating System and explain the main functions of an operating system in detail. (7)  
(b) Explain the term Virtual Memory and state its advantages. (3)

## UNIT-II

- Q4 (a) What is DBMS? Explain in brief the standard methods of organizing the data. (5)  
(b) Explain the different network topologies with their advantages of disadvantages. (5)
- Q5 (a) What is software? Explain different types of software and briefly explain the Software Development Life Cycle. (6)  
(b) Explain briefly the various network types of computer network. (4)

## UNIT-III

- Q6 (a) Explain the terms:- (1.5x4=6)  
(i)  $(6C7)_{16} = (?)_8$   
(ii) Multiply  $(1110)_2$  by  $(111)_2$   
(iii) Divide  $100001_2$  by  $110_2$   
(iv) Subtract  $56_{10}$  from  $92_{10}$  using complementary method.  
(b) Explain the different ways of representing an algorithm with an example. (4)
- Q7 Explain the architecture and operation of 8085 microprocessor with the help of a diagram. (10)

## UNIT-IV

- Q8 (a) Briefly explain the various Internetworking tools used in computer networks. (5)  
(b) Explain various transmission medias of computer network with an example. (5)
- Q9 (a) Explain briefly the different data models in database management System. (5)  
(b) What is Number System? Explain the different types of number system in brief. (5)