

Roll No.

Subject Code—6786

M.C.A. (First Year) EXAMINATION

(Main)

(5 Years Integrated Course)

MCA-101

COMPUTER FUNDAMENTALS

Time : 3 Hours

Maximum Marks : 70

Note : Attempt any *Five* questions. All questions carry equal marks.

1. (a) What is Operating System ? Why do we need it ? Illustrate.
- (b) Differentiate between the following :
 - (i) High-level and Low-level language
 - (ii) Time-sharing and Multi-programming operating system.

2. (a) What is Computer Network Topology ?
What are the various types of computer network topologies ? Discuss their pros and cons.
- (b) Find out the values of X, Y and Z in the following :

$$(B5.A)_{16} = (X)_2 = (Y)_8 = (Z)_{10}$$

3. Differentiate between the following :
- (a) Parallel and Distributed Systems
 - (b) Compiler and Interpreter
 - (c) Primary and Secondary Storage.
4. How do Analog and Digital computers differ from each other ? Why are digital computers more popular ? Also discuss the criteria for classification of digital computers as well as the suitability of each class of digital computers.
5. Explain the following :
- (a) Communication Protocols
 - (b) ATM Networks.

6. (a) What are the functional similarities of Computer System with Human Beings ? Illustrate.
- (b) Differentiate between the following :
- (i) LAN and WAN
 - (ii) RAM and ROM.
7. (a) What are portable computer systems ? Discuss their pros and cons.
- (b) Perform the following operations using 1's and 2's complement :
- (i) $17-29$
 - (ii) $(-6) + 10$
8. Explain the following :
- (a) Unix Operating System
 - (b) Internet.