

207

Subject Code—7269

**M.C.A. (First Year) EXAMINATION**

(5 Years Integrated Course)

**COMPUTER FUNDAMENTALS**

MCA-101

*Time : 3 Hours*

*Maximum Marks : 100*

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

1. (a) What is a digital computer ? Illustrate its working through its block diagram.  
(b) Why is 2's complement followed in digital computer ? Justify your answer.
2. (a) What is an operating system ? Discuss functions of operating system as a resource manager.  
(b) Differentiate between the following :
  - (i) LAN and WAN
  - (ii) RAM and ROM.

3. Explain the following :

- (a) ATM Networks
- (b) Computer Networking Topologies.

4. Differentiate between the following :

- (a) High-level and Low-level Languages
- (b) Internet and Intranet
- (c) Parallel and Distributed Systems.

5. (a) What are portable computer systems ?  
Discuss their benefits and limitations.

(b) Find out the values of X, Y and Z in the following :

$$(B52.5)_{16} = (X)_2 = (Y)_8 = (Z)_{10}$$

6. (a) What are the functional similarities of Computer System with Human Beings ?  
Illustrate.

(b) Perform the following operations using 1's and 2's complement :

(i)  $15 + 23$

(ii)  $17 - 10$ .

7. Explain the following :

- (a) Communication Protocols
- (b) Distributed Computer Systems

8. Differentiate between the following :

- (a) ASCII and EBCDIC
- (b) On-line and real-time applications
- (c) Primary and Secondary Storage.