

10. Write short notes on any *two* of the following :

- (a) Operating System
- (b) Addressing Modes
- (c) Input-Output Processors.

(01/13-II)

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P.G.D.C.A./M.C.A./M.Sc. (Comp. Sc.)

(First Year) EXAMINATION

(New Scheme)

PGDCA-1/MScDE-11/MCA-DE-11

COMPUTER FUNDAMENTALS

Time : Three Hours

Maximum Marks : 70

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

- 1. (a) List and explain some important characteristics of a computer. 7
- (b) Name some representative computer systems of each of the five computer generations. 7

2. (a) Convert the following numbers to decimal numbers : 4
- (i) $(110110)_2$
 - (ii) $(2A3B)_{16}$
 - (iii) $(2573)_{16}$
 - (iv) $(1234)_8$
- (b) Find the complement of the following functions : 6
- (i) $F_1 = \bar{x}.y.\bar{z} + \bar{x}.\bar{y}.z$
 - (ii) $F_2 = x(\bar{y}.\bar{z} + y.z)$
- (c) Construct logic circuit diagram for a half adder by using NOR gate only. 4
3. (a) Explain JK-flip flop in detail. 7
- (b) What is a Counter ? Explain its application. 7
4. (a) Differentiate between RAM and ROM. 7
- (b) What are the main limitations of primary storage of a computer system ? 7
5. (a) What do you mean by high speed memory ? How is it implemented in a system ? 7
- (b) Explain DMA. 7
6. Explain the printing mechanisms of any two printers. 14
7. Write short notes on the following :
- (a) CD-ROM
 - (b) Sound Cards.
8. (a) Differentiate between Compiler and Interpreter. 7
- (b) What are the various types of registers ? Explain their importance. 7
9. (a) Explain advantages of Assembly language over Machine language. 7
- (b) What is an operand, opcode ? Explain the instruction format. 7