

Roll No. :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

DDPG-558

Post-Graduate Diploma in Computer Application Examination, 2023

COMPUTER ORGANIZATION

Paper - PGDCA-101

Time : 3 Hours]

[Maximum Marks : 50

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit 50 words). Each question carries 2 marks.

Section-B

(Marks : 3 × 5 = 15)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit 200 words). Each question carries 3 marks.

Section-C

(Marks : 5 × 3 = 15)

Note :- Answer any *three* questions out of five (Answer limit 500 words). Each question carries 5 marks.

Section-A

1. (i) Perform the subtraction of [11001-10100] with 1's and 2's complement.
- (ii) (a) Convert the 43.125 decimal to binary.
- (b) $(6B.28)_{16} = (?)_8$ 1,1
- (iii) Explain digital logic gates with diagram.

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- (iv) Define the Half Adder.
- (v) Explain working of any *one* peripheral device.
- (vi) Define any *two* modes of data transfer.
- (vii) What is Cache memory ?
- (viii) Define the type of primary memory.
- (ix) Write the 8085 instruction format.
- (x) Explain briefly ALU.

Section-B

2. Convert the following numbers as specified :

(i) $(41.6875)_{10} = (?)_2$

(ii) $(AF63)_{16} = (?)_8$

(iii) $(343)_8 = (?)_{10}$

1+1+1=3

Or

Define the Binary arithmetic with example.

3. Explain working of full-adder in detail.

Or

Simplify the following using K-Map in SOP form :

$$F(A, B, C, D, E) = \Sigma(0, 1, 4, 5, 16, 17, 21, 25, 29)$$

4. Define the DMA.

Or

Explain I/O processor with block diagram.

5. Draw the hierarchy of memory.

Or

Explain different types of memory with its capacity.

6. What is Register set ?

Or

Explain different types of 8085 addressing modes with examples.

Section-C

7. Difference between computer organization and computer architecture.
8. What is Flip-Flop ? Explain SR flip-flop with diagram.
9. What do you mean by Asynchronous data transfer ? Explain hand shaking in detail.
10. Explain virtual memory and its types.
11. Explain microprocessor architecture with Pin diagram.