

PARUL UNIVERSITY
FACULTY OF IT & COMPUTER SCIENCE
MCA Winter 2019 – 20 Examination

Semester: 1

Subject Code: 05201103

Subject Name: Fundamentals of Computer Organization

Date: 29/11/2019

Time: 02:00 pm to 04:30 pm

Total Marks: 60

Q.1 Answer the followings.**A. Do as directed.****(05)**

1. ALU stands for _____.
2. Explain term RAM?
3. List various types of ROM.
4. What is Cache Memory.
5. $(5238)_{10} = (?)_2$

B. Multiple choice type questions.**(10)**

1. _____ is indicate distributive law.

A. $A(B+C) = AB + AC$	C. $A(B+C) = (A+B)C$
B. $(AB)C = A(BC)$	D. $AB=BC \Rightarrow A=C$
2. Which memory device is generally made of semi-conductors?

A. RAM	C. Hard-disk
B. Floppy disk	D. CD disk
3. What is the resultant binary of the decimal problem $4*8 = ?$

A. 101010	C. 100000
B. 001111	D. 110011
4. Fastest memory access element _____

A. Cache	C. RAM
B. Accumulators	D. Hard Disk
5. $(6)_{10} = (?)_2$

A. 0011	C. 0110
B. 1010	D. 1111
6. $(0101)_2 = ()_8$

A. 10	C. 21
B. 5	D. 8
7. $(1100 \ 1110)_2 = (?)_{16}$

A. CE	C. C5
B. A9	D. BC
8. Which of the following expression is in sum-product (SOP) form?

A. $(A + B)(C + D)$	C. $(A)B(CD)$
B. $(AB) + (CD)$	D. AB
9. Full form of CPU _____.

A. Central Processing Unit	C. Central Programming Unit
B. Control Programming Unit	D. Control Processing Unit
10. _____ is used to store data in registers.

A. D flip flop	B. JK flip flop
C. RS flip flop	D. None of the mentioned

Q.2 Answer the followings.**(15)**

1. Explain basic laws of Boolean Algebra. (2)
2. Explain Demorgan's theorem. (2)
3. Explain Floating Point Representation. (2)
4. What is flip flop? Explain any one flip flop in detail. (3)
5. Write a note on Magnetic Disk. (3)
6. Explain instruction format with diagram. (3)

Q.3 Answer the following. (Any three) (15)

1. Explain Immediate and Register addressing modes.
2. What is multiplexer? Explain 8 x 1 multiplexer with diagram and truth table.
3. List out different types of bus. Explain any two bus in detail.
4. Write a note on Direct and Register indirect addressing modes.

Q.4 Answer the following.

A. List all optical storage devices. Explain any one in detail. (05)

B. Explain instruction Set of Intel 8086 microprocessor and Draw architecture of Intel 8086 processor. (10)

OR

B. Explain following instructions:

(a) MOV (b) ADD (c) DEC (d) CMP (e) AND (f) NOT (g) ROL (h) OR (i) NEG (j) DIV (10)