

SEAT No. _____

No. of printed pages: 2

[A-34]

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SARDAR PATEL UNIVERSITY
Post Graduate Diploma in Computer Application (P.G.D.C.A)
Semester – I (NC) External Examinations, April 2018
PS01CDCA23 – Logical Organization of Computers
Friday, 13th April, 2018

Time: 10:00 a.m. to 01:00 p.m.

Max Marks: 70

Q1. Choose the most appropriate option for each question.

[8]

- i. In binary number system, the two symbols used are _____.
- | | |
|-------------|------------------|
| A) -1 and 1 | B) 0 and 1 |
| C) 1 and -1 | D) none of these |
- ii. ASCII value of 'A' is _____.
- | | |
|-------|-------|
| A) 64 | B) 65 |
| C) 66 | D) 0 |
- iii. The full form of ROM is _____.
- | | |
|------------------------|---------------------|
| A) Relation Of Memory | B) Read On Memory |
| C) Read On Motherboard | D) Read Only Memory |
- iv. Keyboard is a _____ type of device.
- | | |
|---------------|------------------|
| A) Input | B) Output |
| C) Controller | D) none of these |
- v. Most instructions requires operands, The method of specifying where the operand is located is called as _____.
- | | |
|----------------|------------------|
| A) Registering | B) Addressing |
| C) Timing | D) none of these |
- vi. The output for OR gate with two input is _____, if both the inputs are different.
- | | |
|------|-------|
| A) 0 | B) -1 |
| C) 1 | D) 2 |
- vii. A _____ circuit adds three one bit binary numbers and outputs two one bit binary numbers.
- | | |
|---------------|--------------------|
| A) Half Adder | B) Quarter Adder |
| C) Full Adder | D) Half Subtractor |
- viii. 2's complement of $(011100)_2$ is _____.
- | | |
|-----------|------------------|
| A) 000001 | B) 111000 |
| C) 100100 | D) none of these |

[P.T.O.]

- Q2. Answer the following questions (Any Seven):** [14]
- a. Mention full form and use of ASCII.
 - b. What is parity bit? When parity bit is used?
 - c. List any two volatile memories.
 - d. Differentiate between primary memory and secondary memory.
 - e. Draw diagram of CPU organization.
 - f. Define truth table. Give truth table for AND gate with two inputs and one output.
 - g. Explain Logical Gate in brief and draw NAND gate with two inputs.
 - h. Explain half adder in brief.
 - i. Explain flip flop in brief and state its use.

- Q3. Answer the following questions:**
- a. Draws block diagram of simple computer and state characteristics of simple computer. [6]
 - b. List types of number systems and explain any two in detail with appropriate example. [6]

OR

- b. Define hamming code. Construct a hamming code for letter 'B' considering odd parity. [6]

- Q4. Answer the following questions:**
- a. Discuss Array processors in detail for Parallelism. [6]
 - b. Write a detailed note on printers. [6]

OR

- b. Explain the concept of multi-computers in detail. [6]

- Q5. Answer the following questions:**
- a. Discuss the designing criteria for Instruction Formats. [6]
 - b. State and prove de-morgans laws with truth tables. [6]

OR

- b. Explain traps and interrupts in detail. [6]

- Q6. Answer the following questions:**
- a. Define and explain multiplexer in detail. [6]
 - b. Explain 2's complement adder/subtractor in detail. [6]

OR

- b. Discuss Shift Register in detail. [6]

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