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COMPUTER ARCHITECTURE & MAINTENANCE

EXCERCISE 1: GENERAL KNOWLEDGE

1. Define the following expressions and say what it is used for
   a. IDE c. LPT e. COM
   b. PCI d. RJ45 f. IEEE
2. Define and describe the purpose of adapter cards and USB adapter
3. Define and explain the function of a BUS
4. Define a BIT, and describe how a series of bits represent information
5. Describe Multicore processors, the components of a processor and the four steps in a machine cycle.
6. Give and explain the hierarchy in data structure storages in the computer.
7. Define and give five (5) differences between application and system software
8. Give and describe the various types of Buses
9. Define Access Time and explain the relationship with computer speed
10. Define Cloud Computing and give its four (4) main specificities.

EXCERCISE 2: NUMBER SYSTEM & CONVERSIONS

1. Do the following operations in hexadecimal
   a. $A2F4_{16} \times 1D9E_{16}$ c. $111_2 - 010_2$
   b. $CF6A_{16} - 3B69_{16}$ d. $AC2_{16} / 11_{16}$
2. Convert the following numbers in binary format equivalences
   a. 19.25 c. 123.456D e. FCH
   b. 0.925 d. ABCDE f. 34.4EF

EXERCISE 3: NUMERIC COMPUTATIONS (perform the following representations)

1) IEEE method with a 4 BITS left shift
   a. (13 + 9) - 14
   b. -65.25
   c. 5
2) EXCESS 64
   a. -37.25
   b. 0.565
   c. 8
3) FLOATING point on 4 BITS right shift
   a. 2.5
   b. 0.045
   c. 9/22

N/B: unless otherwise, use the base as decimal (10)

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