# Examen Unidad 1

# Tipo Test

1. a) 12345,678
2. c) 1024
3. b) 6
4. b) tres mil millones de bytes
5. c) 011110
6. c) ASCII
7. a) Los ordenadores IBM de la serie IBM PC.
8. 
9. b) $12 \cdot 1024 \cdot 8 \rightarrow 98304$ bits
10. b) 100010
11. d) 13

# Parte práctica

## I. Sistemas de numeración

1. $234{,}765 \rightarrow 2\cdot10^2+3\cdot10^1+4\cdot10^0+7\cdot10^{-1}+6\cdot10^{-2}+5\cdot10^{-3}$

   $347{,}21 \rightarrow 3\cdot10^2+4\cdot10^1+7\cdot10^0+2\cdot10^{-1}+1\cdot10^{-2}$

   $800{,}102 \rightarrow 8\cdot10^2+0\cdot10^1+0\cdot10^0+1\cdot10^{-1}+0\cdot10^{-2}+2\cdot10^{-3}$

2. $123{,}45_6 \rightarrow 1\cdot6^2+2\cdot6^1+3\cdot6^0+4\cdot6^{-1}+5\cdot6^{-2} \rightarrow 36+12+3+0{,}66+0{,}14 = 51{,}8_{10}$

   $4300{,}012_5 \rightarrow 4\cdot5^3 3\cdot5^2+0\cdot5^1+0\cdot5^0+0\cdot5^{-1}+1\cdot5^{-2}+2\cdot5^{-3} \rightarrow$
   $500+75+0+0+0+0{,}04+0{,}016 = 575{,}056_{10}$

   $1101{,}0011_2 \rightarrow 1\cdot2^3+1\cdot2^2+0\cdot2^1+1\cdot2^0+0\cdot2^{-1}+0\cdot2^{-2}+1\cdot2^{-3}+1\cdot2^{-4} =$
   $8+4+0+1+0+0+0{,}125+0{,}062 = 13{,}187_{10}$

3. $178{,}2_9 = 81+63+8+0{,}222 = 152{,}222_{10} = 10011000{,}00111$

   $29{,}3125_{10} = 11101{,}0101$

   $A{,}B2_{16} = 1010{,}10110010_2$

4. $110010{,}1101_2 = 32{,}13_{16}$

   $56{,}375_{10} = 38{,}6_{16}$

   $156{,}22_8 = 6E{,}48_{16}$

5. $9A,53F2_{16} = 232,24771_8$

   $29,3125_{10} = 35,24_8$

   $1101110,01001_2 = 156,22$

6. 11111111 + 1 = 100000000

   1011,101 + 101,110 = 10001,011

   11001,11 + 10,1 = 11101,01

7. 11111111 – 1 = 11111110

   1011,101 + 101,110 = 101,111

   11001,11 + 10,1 = 10111,01

8. 1011,01 · 101 = 111000,01

   111 · 100 = 11100

   11001,11 · 10,1 = 1000000,011

9. 101011 / 110 =

   110110110 / 1110 =

   11001,11 / 10,1 =

10.

| | ASCII | | | | | | |
|---|---|---|---|---|---|---|---|
| I | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| n | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| s | 1 | 1 | 1 | 0 | 0 | 1 | 1 |
| t | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| a | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| l | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| a | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| c | 1 | 1 | 0 | 0 | 0 | 1 | 1 |
| i | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| o | 1 | 1 | 0 | 1 | 1 | 1 | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| n | 1 | 1 | 0 | 1 | 1 | 1 | 0 |

| | EBCDIC | | | | | | |
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| | ASCII | | | | | | |
|---|---|---|---|---|---|---|---|
| M | 1 | 0 | 0 | 1 | 1 | 0 | 1 |
| a | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| n | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| t | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| e | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| n | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| i | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| m | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| i | 1 | 1 | 0 | 1 | 0 | 0 | 1 |
| e | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| n | 1 | 1 | 0 | 1 | 1 | 1 | 0 |
| t | 1 | 1 | 1 | 0 | 1 | 0 | 0 |
| o | 1 | 1 | 0 | 1 | 1 | 1 | 1 |

| | EBCDIC | | | | | | |
|---|---|---|---|---|---|---|---|
| M | | | | | | | |

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11. 25 YB =
    15 ZB = 17.293.822.569.102.704.640 B
    20 PB = 22.517.998.136.852.480 B

YB ZB PB TB GB MB KB B