

Computer Systems Exam

Q2 Dec to Binary

iii)

$$a = 84$$

$$b = 246$$

256 128 64 32 16 8 4 2 1

1 0 1 0 1 0 0

1 1 1 0 1 1 0

$$a = 101010100$$

$$b = 11110110$$

Subtraction method

$$84 - 64 = 20$$

$$20 - 16 = 4$$

4

$$246 - 128 = 118$$

$$118 - 64 = 54$$

54

iv) Hex to decimal

$$a) A1 = 161$$

$$b) F5 = 245$$

D - H

0 0

1 1

2 2

3 3

4 4

5 5

6 6

7 7

8 8

9 9

10 10 A

11 11 B

etc

$$a = 10 \times 16^1 + 1 \times 16^0 = 161$$

$$b = 15 \times 16^1 + 5 \times 16^0 = 245$$