**Problem:**

Create a Microsoft Word Document and solve the following problem:

Given 198.73.29.85 and you need 26 subnets:

Find

1. The number of usable hosts per subnet
2. The subnet mask
3. The usable host address ranges for all subnets

**Solution:**

Given,

IP - 198.73.29.85

Class - C

Submask - 255.255.255.0

Needed Subnets - 26

# of Subnets = 2s > 26

25 > 26

s = 5 (Number of bits borrowed)

# of Usable Subnets = 2H-2

23 - 2

8-2

6 ------------------- **(A)**

New Subnet Mask - 255.255.255.0 - 11111111 11111111 111111111 (00000) 000

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SP HP

11111111 11111111 111111111 (11111) 000

255.255.255.248 (or) /29 ------------------- **(B)**

Network Address

IP - 198.73.29.85

Subnet - 255.255.255.248

\*\*Bitwise AND operation\*\*

198 . 73 . 29 . 01010101

255 . 255 . 255 . 11111000

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198 . 73 . 29 . 01010000

**198.73.29.80**

Broadcast Address

IP - 198 . 73 . 29 . 01010(000)

198 . 73 . 29 . 01010111

**198.73.29.87**

Usable Host Address Range for all Subnets

198.73.29.81 to 198.73.29.86 ------------------- **(C)**