Task A:

1. Before subnetting, existing

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subnet Number** | **Subnet ID Binary Value** | **Network bits 3rd octet** | **3rd octet decimal value** | **Host bits binary range (4th octet)** | **4th octet binary range** | **4th octet deminal value** | **IP Range (From)** | **IP Range (To)** |
| 0 | 000 | 00101000 | 40 | 000000 - 111111 | 00 000000 - 00 111111 | 0 - 63 | 190.11.40.0 | 190.11.40.63 |
| 1 | 001 | 00101000 | 40 | 000000 - 111111 | 01 000000 - 01 111111 | 64 - 127 | 190.11.40.64 | 190.11.40.127 |
| 2 | 010 | 00101000 | 40 | 000000 - 111111 | 10 000000 - 10 111111 | 128 - 191 | 190.11.40.128 | 190.11.40.191 |
| 3 | 011 | 00101000 | 40 | 000000 - 111111 | 11 000000 - 11 111111 | 192 - 255 | 190.11.40.192 | 190.11.40.255 |
| 4 | 100 | 00101001 | 41 | 000000 - 111111 | 00 000000 - 00 111111 | 0 - 63 | 190.11.41.0 | 190.11.41.63 |
| 5 | 101 | 00101001 | 41 | 000000 - 111111 | 01 000000 - 01 111111 | 64 - 127 | 190.11.41.64 | 190.11.41.127 |
| 6 | 110 | 00101001 | 41 | 000000 - 111111 | 10 000000 - 10 111111 | 128 - 191 | 190.11.41.128 | 190.11.41.191 |
| 7 | 111 | 00101001 | 41 | 000000 - 111111 | 11 000000 - 11 111111 | 192 - 255 | 190.11.41.192 | 190.11.41.255 |