Question 1:

|  |  |  |
| --- | --- | --- |
| Subnet A | 230.197.180.0/25 | 128 addresses |
| Subnet B | 230.197.180.192/27 | 32 addresses |
| Subnet C | 230.197.180.128/26 | 64 addresses |
| Subnet D | 230.197.180.240/30 | 4 addresses |
| Subnet E | 230.197.180.224/29 | 8 addresses |
| Subnet F | 230.197.180.232/29 | 8 addresses |



Router 1:

|  |  |
| --- | --- |
| Longest prefix match | Outgoing interface |
| 11100110 11000101 10110100 0 | Subnet A |
| 11100110 11000101 10110100 11101 | Subnet F |
| 11100110 11000101 10110100 111100 | Subnet D |

Router 2:

|  |  |
| --- | --- |
| Longest prefix match | Outgoing interface |
| 11100110 11000101 10110100 110 | Subnet B |
| 11100110 11000101 10110100 111100 | Subnet D |
| 11100110 11000101 10110100 11100 | Subnet E |

Router 3:

|  |  |
| --- | --- |
| Longest prefix match | Outgoing interface |
| 11100110 11000101 10110100 10 | Subnet C |
| 11100110 11000101 10110100 11100 | Subnet E |
| 11100110 11000101 10110100 11101 | Subnet F |

Question 2:

|  |  |
| --- | --- |
| Match | Action |
| Ingress port = 4  IP src = 10.2.\*.\*  IP dst = 10.1.\*.\* | forward(3) |
| Ingress port = 3  IP src = 10.1.\*.\*  IP dst = 10.2.\*.\* | forward(4) |
| Ingress port = 3  IP dst = 10.3.0.5 | forward(2) |
| Ingress port = 3  IP dst = 10.3.0.6 | forward(1) |
| Ingress port = 4  IP dst = 10.3.0.5 | forward(2) |
| Ingress port = 4  IP dst = 10.3.0.6 | forward(1) |
| Ingress port = 1 | forward(2) |
| Ingress port = 2 | forward(1) |

Question 3: