2.a)



2.b)



4.a)

Airport ::= SEQUENCE {

Name IA5String,

IATACode IA5String,

NumTerminals INTEGER,

NumGates INTEGER,

City IA5String

}

4.b)

<?xml version="1.0" encoding="UTF-8"?>

< schema xmlns:xs="http://www.w3.org/2001/XMLSchema">

< element name="Airport">

< complexType>

< sequence>

< element name="Name" type=" string"/>

< element name="IATACode" type=" string"/>

<element name="NumTerminals" type=" int"/>

< element name="NumGates" type=" int"/>

< element name="City" type=" string"/>

</ sequence>

</complexType>

</ element>

</ schema>

5.a) Outer IP Header:

Source IPv4 Address: 203.0.113.222

Destination IPv4 Address: 233.252.0.14

5.b) Inner IP Header:

Source IPv4 Address: 198.51.100.11

Destination IPv4 Address: 198.51.100.77

5.c) **IPSec Mode: Tunnel Mode**

5.d)

IP Range: 198.51.100.224 to 198.51.100.255

Binary Representation:

198.51.100.224 → 11000110.00110011.01100100.11100000

198.51.100.255 → 11000110.00110011.01100100.11111111

The first 27 bits are identical: 11000110.00110011.01100100.111

Therefore, the subnet mask is /27.

This subnet covers 32 addresses (since 232−27=322^{32-27} = 32232−27=32), which aligns with the given IP range.

Final CIDR Notation: **198.51.100.224/27**