A/L

ICT

Information and Communication Technology

Structured Essay Question Paper

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Information and Communication Technology (ICT)
A/L
Sinhala / English medium
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1. You have the IP address 192.168.1.10/24.
   (a) What is the subnet mask for this network?

   (b) What are the network and broadcast addresses?

   (c) How many usable host addresses are available?

2. (a) Convert the CIDR notation /28 to a subnet mask.

   (b) What is the equivalent subnet mask in dotted decimal notation?

   (c) How many hosts can this subnet support?

3. Given the IP address 10.1.8.75 with subnet mask 255.255.255.0
   (a) What is the network address of this IP?

(b) What is the broadcast address?

(c) What range of IP addresses can be assigned to hosts in this subnet?

4. You need to create a network with at least 50 subnets and 500 hosts per subnet using an IP address in the 172.16.0.0 range (Class B).

(a) What subnet mask would you use?

(b) How many subnets and hosts per subnet does this allow?

(c) What would be the new CIDR notation for each subnet?

5. You have been assigned the network 192.168.0.0/24. You need to create subnets for:
   A department with 50 hosts
   A department with 20 hosts
   A department with 10 hosts
   Provide subnet addresses, subnet masks, and usable host IP ranges for each department.

6. Combine the following subnets into a single summary route:
   192.168.10.0/24
   192.168.11.0/24
   192.168.12.0/24
   192.168.13.0/24
   What is the supernet (summarized) address and its CIDR notation?

7. Given an IP range 10.0.0.0/22, answer the following:

   (a) What is the starting IP address?

   (b) What is the ending IP address?

   (c) How many total IP addresses are in this range?

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