

**WORLD MISSION HIGH SCHOOL**

Trade: Networking

Class: Level 5 Networking

Module: Routing & Switching

**ROUTING AND SWITCHING HOMEWORK /30 Marks**

1. Discuss the network troubleshooting tools below: /10
  - a) Ping
  - b) Telnet
  - c) TraceRoute
  - d) ARP
  - e) Ipconfig/ifconfig
2. Compare the Classless Inter-Domain Routing (CIDR) and the Variable Length Subnet Mask (VLSM) /4
3. Give any three (3) advantages of sub-netting.
4. Give n the following subnet mask 255.255.255.128 (/25),
  - a) How many subnets?
  - b) How many hosts per subnet?
  - c) What are the valid hosts?
  - d) How many valid subnets?
  - e) Identify first host and broadcast for each subnet
5. A Company located in KIGALI city has three buildings, building1 with LAN 1 has 40 users, buildings 2 with LAN 2 has 30 users and buildings 3 with LAN3 has 10 users. You are requested to create a new subnet mask for each LAN by using 192.168.10.0/24.  
Required:
  - a) Use VLSM to create these 3 new networks,
  - b) Find on each network the following: Network ID, host ID range (block size), usable host, valid subnet, and broadcast ID.