

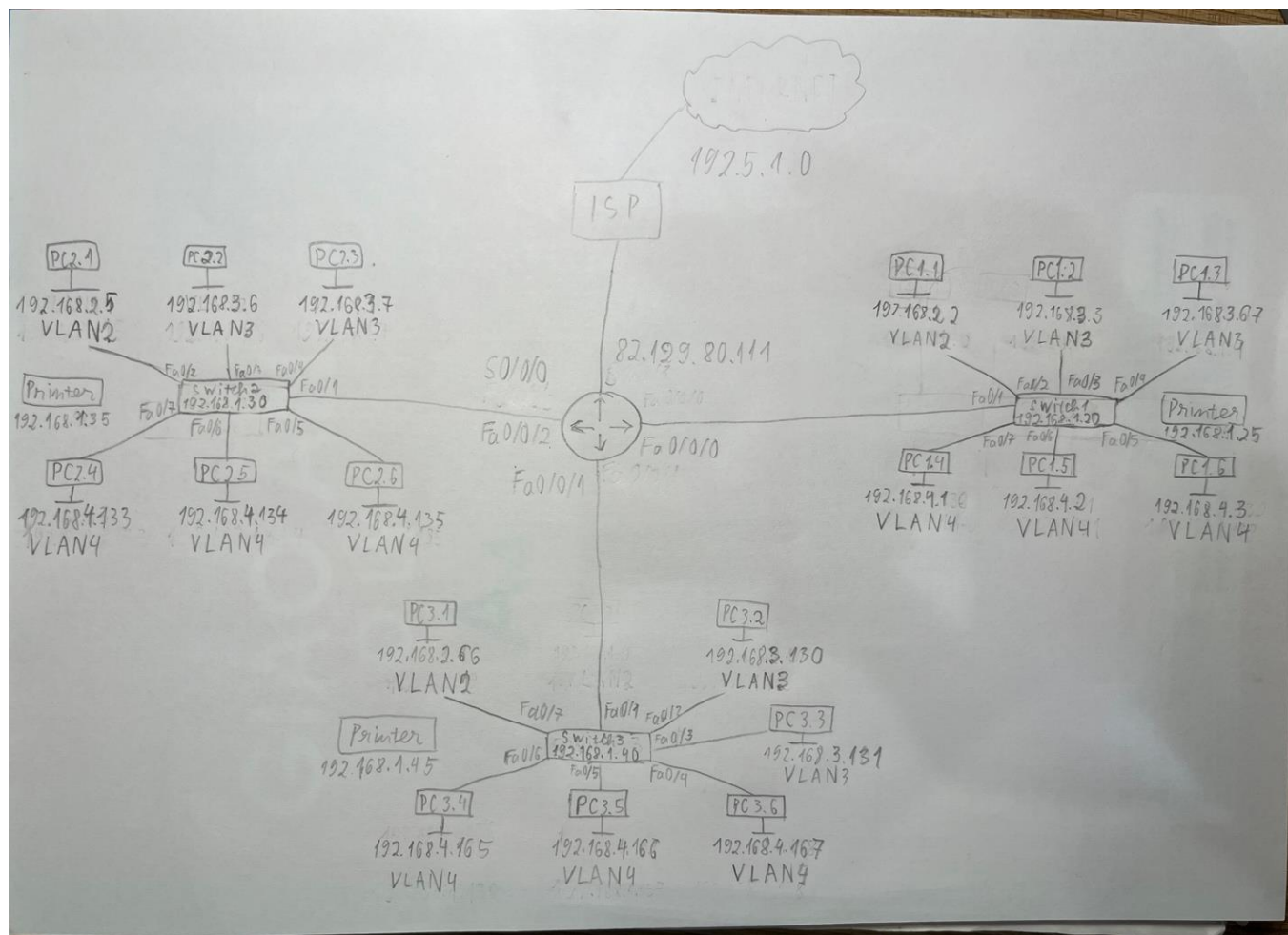
Equipment name and price:

- PIXMA TS3722 Wireless All-In-One Printer (\$49.00)
- DELL desktop OptiPlex Micro Form Factor Intel Core i7 14700T vPro – 16GB RAM – 256GB ROM (\$1,139.00)
- Cisco Small Business Smart SG200-10FP - Switch - managed - 8 x 10/100/1000 (PoE) + 2 x 10/100/1000 - desktop, rack-mountable - PoE (62 W) - refurbished

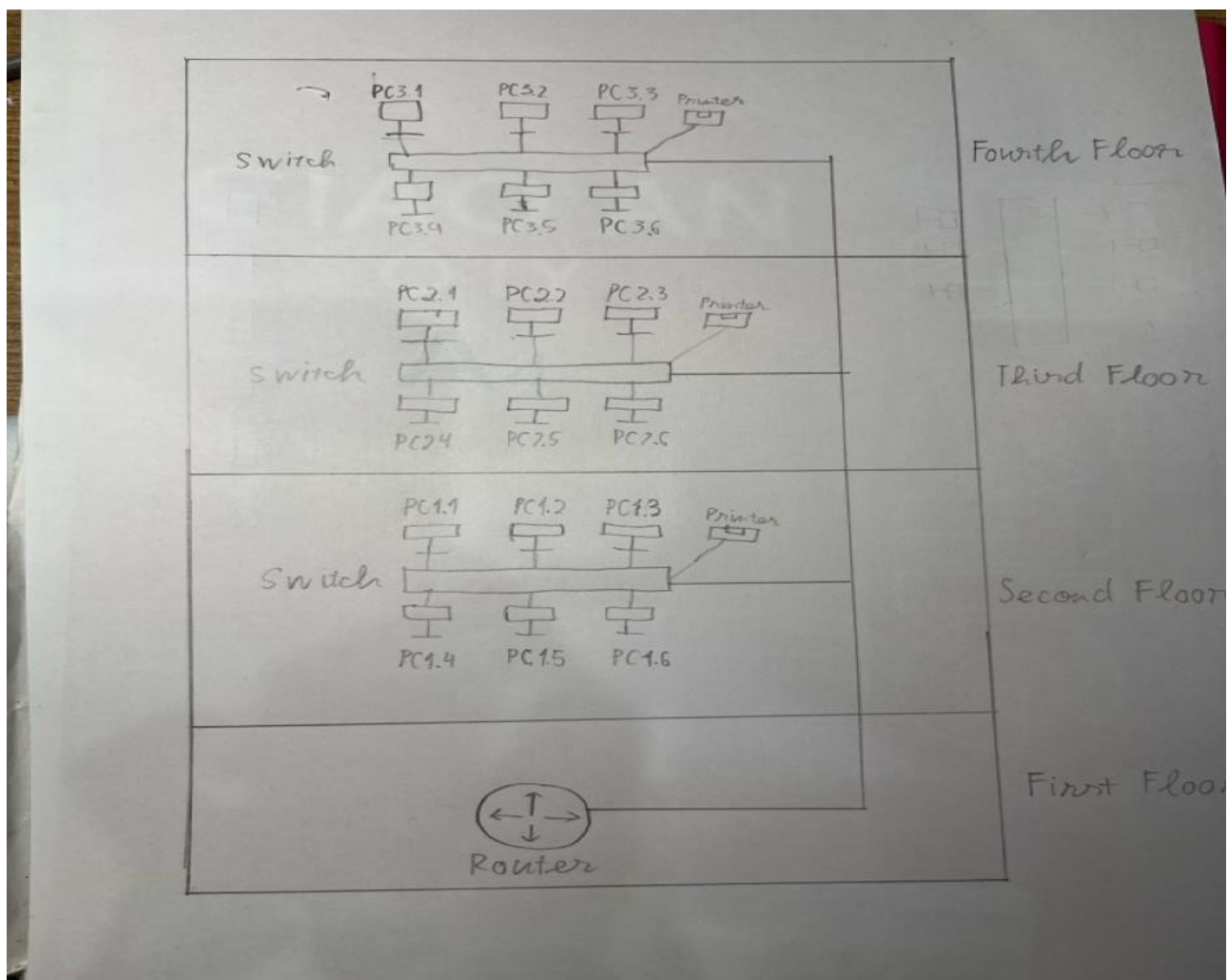
(\$199.89)

- NETGEAR - Nighthawk AX4200 Wi-Fi 6 Router, 4.2Gbps (RAX42) (\$199.00)
- Monoprice Cat5e Ethernet Patch Cable - 20 Feet - Yellow | Network Internet Cord - RJ45, Stranded, 350Mhz, UTP, Pure Bare Copper Wire, 24AWG - Flexboot Series (\$7.98)

Network diagram:



Building design:



Network 192.168.1.0 255.255.255.000

Port Assignment:

Ports	Assignment	Network
Fa0/1	VLAN1	192.168.1.0 /24
Fa0/2	VLAN2 – Manager	192.168.2.0 /24
Fa0/3 – 0/4	VLAN3 – Staff	192.168.3.0 /24
Fa0/5 – 0/7	VLAN4 – Guest	192.168.4.0 /24

Router configuration:

Network	Interface/Next hop
192.168.1.20	Directly connected – Fa0/1
192.168.1.30	Directly connected – Fa0/2
192.168.1.40	Directly connected – Fa0/3
192.5.1.0	Directly connected – s0/0/0

I will use the Cat5e cable to connect the PC with the VLAN port on the switch that the PC has been assigned to. The switch will then connect to the router with the port that has been assigned. I chose Cat5e because it transfers data fast enough and is affordable. Default gateway of PC1.1, PC2.1, PC3.1 is 192.168.1.1. The default gateway of PC1.2, PC1.3, PC2.2, PC2.3, PC3.2, PC3.3 is 192.168.2.1. The default gateway of the rest PC is 192.168.4.1. DNS will be assigned to each computer for IP translating when looking for a website on the Internet. Each network I will divide into 4 subnets, with 60 hosts per each subnet. Link state, OSPF, and BGP would be suitable protocols for the network. NMP protocols are applied to all network-enabled devices. SSH is used for securely operating a network service over an unsecured network. HTTPS for web communication and SMTP for email services.