Hotel Network design and Implementation

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As a part of your end year networking project, you are required to design and implement Hotel-Abdul network. The hotel has three floors; in the first floor there three departments (Reception, store and Logistics), in the second floor there are three departments (Finance, HR and Sales/Marketing), while the third floor hosts the IT and Admin. Therefore, the following are part of the considerations during the design and implementation.

1. There should be three routers connecting each floor (all placed in the server room in IT department).
2. All routers should be connected to each other using serial DCE cable.
3. The network between the routers should be 10.10.10.0/30,10.10.10.4/30,10.10.10.8/30
4. A central server is expected to support an internal website
5. The central server is expected to support a dns service
6. The central server is expected to support an FTP service (username is cisco, password cisco) with all privileges
7. The central server should have ip of 10.10.10.14/30
8. Each floor is expected to have one switch (placed in the respective floor).
9. Each floor is expected to have WIFI networks connected to laptops and phones.
10. Each department is expected to have a printer.
11. Each department is expected to be in different VLAN with the following details

    1ª Floor:

    - Reception-VLAN 80, Network of 192.168.8.0/24
    - Store- VLAN 70, Network of 192.168.7.0/24
    - Logistics- VLAN 60, Network of 192.168.6.0/24
    - Management VLAN 999 network 192.168.200.2/30

    2nd Floor:

    - Finance-VLAN 50, Network of 192.168.5.0/24
    - HR-VLAN 40, Network of 192.168.4.0/24
    - Sales VLAN 30, Network of 192.168.3.0/24
    - Management VLAN 999 network 192.168.200.5/30

    3rd Floor:

    - Admin- VLAN 20, Network of 192.168.2.0/24
    - IT- VLAN 10, Network of 192.168.1.0/24
    - Management VLAN 999 network 192.168.200.9/30
12. Set domain-name to hotelabdul.com
13. Use OSPF as the routing protocol to advertise routes.

14. Enable Passive Ospf interfaces where neccessary
15. All devices in the network are expected to obtain IP address dynamically with their respective router configured as the DHCP server.
16. All the devices in the network are expected to communicate with each other.
17. Configure SSH in all the routers for remote login.
18. Use “cisco” and “cisco123” as username and passwords in all devices (note this is not advisable in production environment.
19. Backup all startup configurations to and ftp server
20. Configure appropriate banner messages on every internetworking device
21. All passwords on internetworking devices should be encrypted
22. Set maximum remote connections to 5 sessions where applicable
23. Set exec-time out where necessary to 5 minutes
24. Enable portfast and bpdu where neccessary
25. In IT department, add PC called Test-PC to port fa0/1 and use it to test remote login
26. Configure port security to IT-dept switch to allow only Test-PC to access port fa0/1 (use sticky method to obtain mac-address with violation mode of shutdown.)
27. Make test-pc a static ip

Note

I made a few modifications, I added:

- **a dns server, ftp server and web server management**
- **vlan Ips and gateways**
- **Instructions number 4, 5, 6, 7, 12, 14, 18, 19, 20, 21, 22, 23, 24, 27**