## 18CSS302J – Computer Networks

## Mini Project 2020-21

## Hospital Network Design

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**Project Scope**

This project is developed in order to design the network configuration of a hospital. As a hospital has various sections of high importance that require constant monitoring, the network design is very crucial to maintain smooth functioning.

**Network Requirement Analysis**

* Desktop computers
* Laptops
* Smartphones
* Routers
* Switches
* Servers
* There exists a data flow between all the devices in the system. The network system has been divided into segments for hospital wards, clinical areas etc.

**Features and Services Used**

* DHCP
* DNS
* Subnetting
* HTTP
* SSH
* SMTP
* FTP
* WiFi

**Bill of Material**

* Cisco Switch (5)

200$ each

* Cisco Router (6)

300$ each

* Cisco Server (2)

400$ each

* Computers (12)

150$ each

Total cost- 5400$

**Hospital Segments**

**1** General ward

**2** Private ward

**3** Clinical Area

**4** IT Department

**5** Entrance Reception

**6** Lobby and Parking

**Network Configuration and Integration**

The diagram has been divided into six segments as mentioned above. These segments represent different departments of the hospital. Following are the running configuration of routers and switches related to different segments of the hospital respectively:

|  |  |
| --- | --- |
| **General Ward Switch** | **General Ward Router** |
|  |  |

|  |  |
| --- | --- |
| **Private Ward Switch** | **Private Ward Router** |
|  |  |

|  |  |
| --- | --- |
| **Clinical Area Switch** | **Clinical Area Router** |
|  |  |

|  |  |
| --- | --- |
| **IT Department Switch** | **IT Department Router** |
|  |  |

|  |  |
| --- | --- |
| **Entrance Switch** | **Entrance Router** |
|  |  |

**IP Configuration**

IT Department

PC1- 192.168.1.2

Router- 192.168.1.1

Server PT1- 192.168.1.3

Server PT2- 192.168.1.4

Switch- 192.168.1.5

Clinical Area

PC1- 192.168.2.2

PC2- 192.168.2.3

PC3-192.168.2.4

PC4-192.168.2.5

Clinical Router- 192.168.2.7

Entrance Reception

PC1- 192.168.3.2

PC2- 192.168.3.3

PC3- 192.168.3.4

Entrance Router- 192.168.3.6

General Ward

PC1- 192.168.4.2

PC2- 192.168.4.3

Router- 192.168.4.1

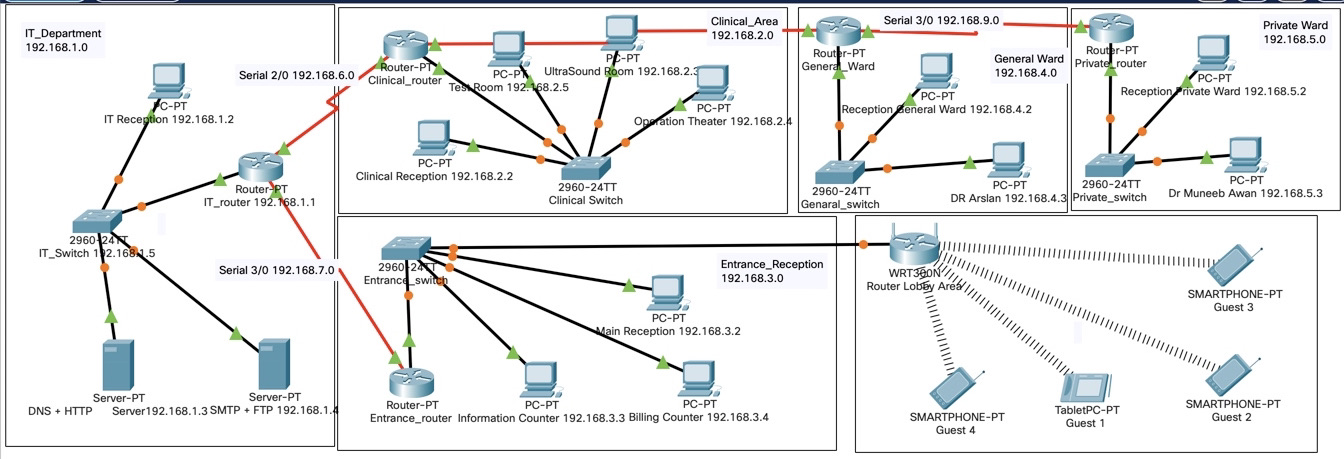
Private Ward

PC1- 192.168.5.2

PC2-192.168.5.3

Router- 192.168.5.1

**Network Diagram**

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