

**Mymensingh Polytechnic Institute**  
**Computer Science & Technology**  
**6<sup>th</sup> Semester (Providhan-2022)**  
**Subject Name: Surveillance Security System [Code: 28565]**  
**[Semester Plan - Theory Part]**

<b>Week</b>	<b>Content</b>	<b>Remarks</b>
1 <sup>st</sup>	Surveillance security System 1.1 Define surveillance system. 1.2 State different types of surveillance.	
2 <sup>nd</sup>	1.3 Describe problems & constrains of surveillance. 1.4 State the uses of access control in Surveillance systems.	
3 <sup>rd</sup>	<b>Video surveillance</b> 2.1 Define video surveillance. 2.2 Illustrate the Construction procedure of a	<b>Class Test-1</b>
4 <sup>th</sup>	2.3 State the function of video surveillance. 2.4 Explain the essential components of the CCTV camera system 2.5 Explain construction procedure of various nodes and blocks in CCTV surveillance system 2.6 Explain Security policy model.	
5 <sup>th</sup>	<b>Cameras, Lens and sensors</b> <b>3.1 Define pixels, camera, Lens and Sensor.</b> <b>3.2 Describe the function of different types of cameras.</b> <b>3.3 List different types of lenses</b>	<b>Quiz-1</b>
6 <sup>th</sup>	3.4 State Fixed lenses, Zoom lenses, Varifocal lenses, Monofocal lenses, Wide Angle lenses with uses 3.5 State various types of CCTV drawing Symbols.	
7 <sup>th</sup>	DVR, NVR interface and Remote access 4.1 Define DVR and NVR. 4.2 Describe the function of various blocks of DVR and NVR. 4.3 State the uses of physical storage and cloud storage.	
8 <sup>th</sup>	<b>Mid Term Examination</b>	
9 <sup>th</sup>	4.4 Describe the recording format of a DVR and NVR. 4.5 Define remote access system. 4.6 Mention the Advantage and disadvantage of remote access system.	<b>Class Test-2</b>
10 <sup>th</sup>	<b>Surveillance system installation</b> 5.1 List the necessary equipment of Surveillance system. 5.2 State the various type of cables uses in surveillance system	
11 <sup>th</sup>	5.3 Describe the function and operation of Biometric device, Intercom, Door lock, Emergency Alarm 5.4 Illustrate the installation process of Biometric system. 5.5 Describe the maintenance procedure of Surveillance system.	<b>Quiz-2</b>

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**[Semester Plan - Practical Part]**

Week	Content	Remarks
1 <sup>st</sup>	Requirements, Quotation and approval. 1.1 Collect requirements from Client. 1.2 Select products as per requirement. 1.3 Prepare Budget as per requirements. 1.4 Prepare design and diagram 1.5 Prepare a quotation as per requirements. 1.6 Approve quotation from client. 1.7 Maintain the record of performed task.	
2 <sup>nd</sup>	Testing equipment's and set up. 2.1 Follow Occupational safety and health (OSH) practices. 2.2 Collect the necessary equipment's and select BNC or Video balun, Power Adapter, Cable, Camera, DVR and NVR. 2.3 Connect and set up equipment's according to diagram. 2.4 Test the equipment's. 2.5 Identify and Isolate the faulty device. 2.6 Maintain the record of performed task.	
3 <sup>rd</sup>	<b>Perform Wiring of Power and Network Cable.</b> 3.1 Follow Occupational safety and health (OSH) practices. 3.2 Identify the power source. 3.3 Perform wiring as per required. 3.4 Install power equipment. 3.5 Connect cable according to diagram. 3.6 Connect different network equipment. 3.7 Maintain the record of performed task.	
4 <sup>th</sup>	Install the CCTV camera. 4.1 Follow Occupational safety and health (OSH) practices. 4.2 Make survey and identify the location of the camera to be fixed. 4.3 Select the suitable camera depending on the coverage area required by the customer. 4.4 Connect power equipment of different CCTV Camera. 4.5 Select cable and connector (coaxial/twisted pair cable and BNC connectors/ Video Balun). 4.6 Connect all the cables and cameras as per procedure. 4.7 Ensure all cable and connectors are connected properly. 4.8 After complete all procedure connect AC/DC Power Adapter with CCTV Camera. 4.9 Maintain the record of performed task.	

5 <sup>th</sup>	<p><b>Install the IP (and PTZ) camera</b></p> <p>5.1 Follow Occupational safety and health (OSH) practices.  5.2 Follow installation procedures as per manuals.  5.3 Mount the IP cameras such as pan, tilt, zoom.  5.4 Connect power equipment/ Use POE switch of IP Cameras.  5.5 Assign IP address.  5.6 Maintain the record of performed task.</p>	
6 <sup>th</sup>	<p>Install and configure DVR/NVR Machine.</p> <p>6.1 Follow Occupational safety and health (OSH) practices.  6.2 Set up DVR/NVR as per diagram.  6.3 Install Hard disk in DVR/NVR.  6.4 Ensure that all cables and connectors are connect Properly.  6.5 Assign IP Address to connect DVR/NVR.  6.6 Install the appropriate software for remote monitoring.  6.7 Configure the DVR/NVR as per procedure.  6.8 Maintain the record of performed task.</p>	
7 <sup>th</sup>	<p><b>Configure the camera</b></p> <p>7.1 Follow Occupational safety and health (OSH) practices.  7.2 Perform control and configure/settings of camera such rotation, speed of movement in pan/tilt camera  7.3 Use stable mounting structure and ensure that is not disturbance any circumstance.  7.4 Ensure that cameras are protected from light while installing in outdoor.  7.5 Maintain the record of performed task.</p>	
8 <sup>th</sup>	<b>Mid Term Examination</b>	
9 <sup>th</sup>	<p>Backup data from DVR/NVR</p> <p>8.1 Follow Occupational safety and health (OSH) practices.  8.2 Connect external storage device to the DVR/NVR.  8.3 Use Backup Option from the DVR/NVR as per manual.  8.4 Select particular camera for backup the footage.  8.5 Set time and date to find the footage for backup.  8.6 select video format for backup such as dav, mp4, PAL, NTSC.  8.7 Start or Click Backup option.  8.8 Maintain the record of performed task.</p>	
10 <sup>th</sup>	<p>Install and Configure Biometric and software</p> <p>9.1 Follow Occupational safety and health (OSH) practices.  9.2 Install and configure Biometric device.  9.3 Install and connect Biometric Device Software.  9.4 Enroll employes data in Biometric device  9.5 Configure attendance time table for employee.  9.6 link employes data from devices to software.  9.7 Generate test Report and get output by software.  9.8 Maintain the record of performed task.</p>	
11 <sup>th</sup>	<p>Wireless series camera setup and install</p> <p>10.1 Follow Occupational safety and health (OSH) practices.  10.2 Select a wireless series camera from a specific company.  10.3 Read and get knowledge the camera mechanism from</p>	

	<p>operational manual</p> <p>10.4 Select and install SD Card for appropriate place of camera</p> <p>10.5 Mount the Device with appropriate place and position.</p> <p>10.6 Connect the camera with a local Wi-Fi follow the instruction Manual.</p> <p>10.7 Download the necessary software for remotely access.</p> <p>10.8 Maintain the record of performed task.</p>	
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