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| SCHOOL OF INFORMATION AND TECHNOLOGY | | |
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# SYSADM1 – Physical Infrastructure

# Instructions:

Answer the following questions based on Week 3 Lecture notes.

1. Identify potential issues in physical infrastructure setups and propose solutions to optimize performance or reduce costs  
     
   **Potential Issues:**  
   **Network Problems**

Network issues can arise from malfunctioning hardware such as routers and switches, or from unexpected spikes in traffic. Symptoms include slow connectivity, buffering during video calls, and interruptions in VoIP services. These problems can severely impact business operations and user experience.  
  
**Power Supply Reliability**

Frequent power outages indicate poor infrastructure reliability, which can disrupt operations and lead to increased operational costs due to downtime.  
  
**Aging Infrastructure**

Many infrastructures, particularly in transportation and utilities, are reaching the end of their service life. This can lead to increased maintenance costs and risks of failure.  
  
**Security Vulnerabilities**

Outdated software and insufficient access controls can expose systems to cyber threats. Infrastructure that lacks robust security measures can become a target for attacks, leading to data breaches and operational disruptions.

1. You are a project manager responsible for implementing a new infrastructure project, such as a smart city initiative or a digital transformation strategy.
2. What IT systems and technologies are necessary to support the project's objectives?
3. How can the IT infrastructure be designed to be scalable and flexible?
4. What are the potential security risks and vulnerabilities, and how can they be addressed?
5. How can the IT infrastructure be integrated with existing systems and processes to minimize disruption?