

**Course Code: IT602**  
**Midterm MCQ's file (Week 1-6)**  
**Information Technology infrastructure**  
**Prepared by DL**

1. What does IT infrastructure consist of?
  - A. Mission-specific equipment and software
  - **B. Equipment, systems, software, and services used across an organization**
  - C. Hardware devices only
  - D. Employee workstations
2. Which type of architecture focuses on the physical and operational aspects of IT?
  - A. Business architecture
  - **B. Infrastructure architecture**
  - C. Application architecture
  - D. Data architecture
3. Which of the following is a non-functional attribute of IT infrastructure?
  - A. Disk space
  - **B. Availability**
  - C. Connectivity
  - D. Processing power
4. Which attribute describes the system's ability to perform consistently over time?
  - A. Scalability
  - B. Testability
  - **C. Performance**
  - D. Recoverability
5. Non-functional attributes are described as:
  - A. System specifications for hardware
  - **B. Qualitative behavior of the system**
  - C. Functional requirements
  - D. Performance benchmarks
6. How a system's availability is typically expressed?
  - A. As a numerical value
  - B. As an error rate
  - **C. As a percentage of uptime**
  - D. As a ratio of successes to failures
7. What is the purpose of balancing conflicting NFRs (Non-functional Requirements)?
  - A. To achieve maximum cost efficiency
  - **B. To prioritize some NFRs over others based on stakeholder needs**
  - C. To eliminate all non-functional requirements
  - D. To increase processing power
8. Which of the following is an example of scalability?
  - A. Ensuring secure login

- B. Increasing the system's capacity to handle additional users**
    - C. Implementing failover mechanisms
    - D. Running backup scripts
  - 9. What is a primary role of the infrastructure architect?
    - A. Developing application-specific functionality
    - B. Balancing and prioritizing non-functional requirements**
    - C. Writing system-level documentation
    - D. Maintaining user interface consistency
  - 10. Which of the following is NOT typically invisible and taken for granted by users?
    - A. IT infrastructure
    - B. Business processes
    - C. Internet access
    - D. Data visualization dashboards**
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1. What does 99.999% availability represent in IT infrastructure?
  - A. Five hours of downtime per year
  - B. Carrier-grade availability**
  - C. Average availability for most systems
  - D. No planned maintenance allowed
2. What is the formula for calculating availability?
  - A.  $(\text{Uptime} - \text{Downtime}) / \text{Total Time}$
  - B.  $(\text{MTBF}) / (\text{MTBF} + \text{MTTR}) \times 100\%$**
  - C.  $\text{Total Time} / \text{Downtime}$
  - D.  $\text{MTTR} / \text{MTBF} \times 100\%$
3. Which of the following components typically has the highest MTBF?
  - A. Hard disk
  - B. RAM**
  - C. Power supply
  - D. Ethernet switch
4. What does the acronym SPOF stand for in IT infrastructure?
  - A. Secure Points of Functionality
  - B. Single Point of Failure**
  - C. Systems Plan of Failover
  - D. Software Priority of Features
5. Which of the following is a primary goal of redundancy?
  - A. Reducing system costs
  - B. Eliminating single points of failure**
  - C. Increasing user satisfaction
  - D. Reducing software bugs

6. Failover systems typically:
    - **A. Operate automatically**
    - B. Require manual intervention
    - C. Are used only during disasters
    - D. Include temporary SPOFs
  7. Business continuity focuses on:
    - A. Regularly updating hardware components
    - **B. Providing an effective response to organizational threats**
    - C. Increasing system performance under load
    - D. Enhancing the graphical user interface
  8. What kind of maintenance is more vulnerable to downtime?
    - A. Regular backups
    - **B. Planned maintenance**
    - C. Data archiving
    - D. Application development
  9. Which of the following is an example of physical defects causing downtime?
    - A. A RAID configuration error
    - **B. A broken cooling fan**
    - C. Network latency
    - D. A software upgrade failure
  10. What is the meaning of a "bathtub curve" in IT maintenance?
    - It represents consistent performance
    - **It shows the failure rate over a component's lifecycle**
    - It tracks system costs over time
    - It predicts user satisfaction trends
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1. What does perceived performance refer to?
  - A. Actual system speed
  - **B. How quickly a system appears to perform tasks**
  - C. Benchmarking results
  - D. System stability over time
2. Which of the following is NOT a performance testing type?
  - A. Load testing
  - B. Endurance testing
  - **C. Breakpoint testing**
  - D. Stress testing
3. What is a common cause of bottlenecks in a running system?
  - A. Insufficient user training
  - **B. Inefficient components reaching their limits**

- C. Lack of user profiling
    - D. Hardware redundancy
  - 4. Which performance improvement technique focuses on frequently used data?
    - A. Caching**
    - B. Prototyping
    - C. Failover
    - D. Redundancy
  - 5. What does benchmarking assess?
    - A. User satisfaction levels
    - B. Relative performance of system components**
    - C. Maintenance schedules
    - D. Data loss probabilities
  - 6. Which test type evaluates a system's performance under extreme load?
    - A. Stress testing**
    - B. Load testing
    - C. Performance modeling
    - D. Endurance testing
  - 7. What is the goal of capacity management?
    - A. Predict performance degradation**
    - B. Reduce system downtime
    - C. Enhance graphical interfaces
    - D. Automate system testing
  - 8. Why is user profiling important during performance design?
    - A. It helps predict the load a system will experience**
    - B. It ensures backups run smoothly
    - C. It monitors system uptime
    - D. It simplifies system maintenance
  - 9. Which factor is most critical in endurance testing?
    - A. Long-term system performance**
    - B. Immediate response times
    - C. Maximum user capacity
    - D. Minimal resource usage
  - 10. What percentage of performance issues typically stem from poorly behaving applications?
    - A. 50%
    - B. 60%
    - C. 70%
    - D. 80%**
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1. What are the core goals of security?
  - A. Availability, Scalability, Recoverability
  - **B. Confidentiality, Integrity, Availability**
  - C. Recoverability, Testability, Performance
  - D. Integrity, Recoverability, Performance
2. What is a common reason for hacking IT infrastructures?
  - A. Improving software performance
  - **B. Creating damage for financial gain or prestige**
  - C. Enhancing user satisfaction
  - D. Simplifying system designs
3. Which risk response involves transferring the risk to another party?
  - A. Acceptance
  - B. Mitigation
  - C. Avoidance
  - **D. Transfer**
4. What is a Single Point of Failure (SPOF)?
  - A. A redundant component that ensures uptime
  - **B. Component that causes system downtime if it fails**
  - C. A backup system
  - D. A performance testing tool
5. Which measure ensures unauthorized data disclosure prevention?
  - A. Integrity
  - B. Availability
  - **C. Confidentiality**
  - D. Performance
6. What is the focus of a brute force attack?
  - A. Discovering flaws in encryption methods
  - **B. Systematically checking all possible keys**
  - C. Exploiting server vulnerabilities
  - D. Crashing network components
7. Which type of malicious code replicates itself to spread infections?
  - A. Virus
  - **B. Worm**
  - C. Trojan Horse
  - D. Keylogger
8. How does phishing typically work?
  - A. By infecting devices with malicious code
  - **B. By sending fake emails to obtain sensitive information**
  - C. By disabling system security measures
  - D. By overloading network connections
9. What does Layered Security aim to achieve?
  - A. Simplify the security structure
  - **B. Provide multiple defenses at various infrastructure levels**
  - C. Eliminate the need for encryption

- D. Enhance system speed
10. Which cryptographic standard is considered secure for email privacy?
- A. DES
  - B. AES**
  - C. RC4
  - D. MD5
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1. What is the primary function of a data center?
  - A. Managing employee data
  - B. Storing and processing large amounts of organizational data**
  - C. Running software development processes
  - D. Hosting internal email systems
2. Which data center category is typically the largest?
  - A. Sub Equipment Room (SER)
  - B. Main Equipment Room (MER)
  - C. Organization-owned data center
  - D. Multi-tenant data center**
3. What type of power issue describes a short-term voltage drop?
  - A. Blackout
  - B. Surge
  - C. Spike
  - D. Brownout**
4. What is the purpose of a raised floor in a data center?
  - A. Enhance aesthetics
  - B. Prevent network outages
  - C. Provide a path for cooling and cables**
  - D. Increase structural integrity
5. What does PUE measure in a data center?
  - A. Cooling efficiency
  - B. Power usage effectiveness**
  - C. Network throughput
  - D. Employee productivity
6. Which tier represents fault-tolerant availability?
  - A. Tier 1
  - B. Tier 2
  - C. Tier 3
  - D. Tier 4**
7. Which fire suppression system is least likely to damage electronic components?
  - A. Water sprinklers

- B. Gaseous fire suppression systems**
  - C. Foam-based systems
  - D. Fire blankets
8. What is a key advantage of multi-tenant data centers?
- A. High fault tolerance
  - B. Lower costs due to shared resources**
  - C. Enhanced employee access
  - D. Increased physical security
9. Which cooling system uses chilled water?
- A. CRAC
  - B. CRAH**
  - C. Split systems
  - D. Refrigerated fans
10. What is the optimal air temperature range in a data center?
- A. 10-15°C
  - B. 18-27°C**
  - C. 28-35°C
  - D. 40-45°C
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1. What was the predecessor of the internet?
- A. Ethernet
  - B. ARPANET**
  - C. TCP/IP
  - D. LAN
2. What is the role of the OSI model?
- A. Define programming languages
  - B. Standardize network layers for communication**
  - C. Design user interfaces
  - D. Manage hardware specifications
3. Which network medium supports the highest bandwidth?
- A. Category 5 cables
  - B. Single Mode Fiber**
  - C. Coaxial cables
  - D. Twisted pair
4. What is the main disadvantage of public wireless networks?
- A. High reliability
  - B. Lower bandwidth and security**
  - C. Easy setup
  - D. Increased range

5. What does a router primarily do?
  - **A. Connect different subnets**
  - B. Provide DHCP services
  - C. Encrypt data packets
  - D. Act as a web server
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6. Which protocol is responsible for translating domain names into IP addresses?
  - A. DHCP
  - **B. DNS**
  - C. ICMP
  - D. NTP
7. What does NAT accomplish?
  - A. Encrypt IP packets
  - **B. Translate private IP addresses to public ones**
  - C. Monitor bandwidth usage
  - D. Provide redundancy
8. Which protocol is commonly used for secure web communication?
  - A. HTTP
  - **B. HTTPS**
  - C. FTP
  - D. SMTP
9. What is a VPN primarily used for?
  - A. Enhancing website speed
  - **B. Securely connecting private networks over public infrastructure**
  - C. Encrypting email traffic
  - D. Hosting cloud services
10. Which protocol uses port 25 by default?
  - **A. SMTP**
  - B. HTTP
  - C. FTP
  - D. DNS

**Prepared by DL...**  
**May You All Stay Success in your Whole**  
**Life, Ameen! Summ Ameen...**  
**Just Remember us in your Deep Prayers. JazakAllah..**