



AP Computer Science Principles

Unit 2 Practice Exam: The Internet

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Practice Assessment · 30 Questions ·

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Name: _____ Period: _____ Date: _____

DIRECTIONS: This practice exam has 30 multiple-choice questions covering Unit 2: The Internet. Select the *single* best answer unless a question says “Select two.”

1. Which of the following is a *computing device*?

- (A) An unplugged power cable
- (B) A smartphone that can run apps
- (C) An analog clock with no processor
- (D) A printed textbook

2. A school sets up several laptops, a printer, and a server so that students can print from any laptop. This collection of devices is best described as:

- (A) A packet
- (B) A computing network
- (C) A single computing device
- (D) A protocol

3. Which of the following best describes a *computing system*?

- (A) A group of computing devices and programs that work together for a common purpose
- (B) A single cable connecting two routers
- (C) A human reading an email
- (D) A web page displayed in a browser

4. A home network includes a laptop, a tablet, a smart TV, and a wireless router. The router's role in this network is to:

- (A) Display web pages on every device
- (B) Forward data between devices and toward external networks
- (C) Store all of the family's files
- (D) Generate new IP addresses for the Internet

5. Data travels from Device A to Device D through two intermediate routers. The sequence A - Router 1 - Router 2 - D is called:

- (A) A path
- (B) Bandwidth
- (C) A protocol
- (D) A packet

6. A company's internal network can transmit 1 Gbps, but the Internet connection to the building is only 50 Mbps. When an employee downloads a file from an external website, the limiting factor is:

- (A) The file's size, because larger files always download faster
- (B) The 1 Gbps internal network, because it handles the download
- (C) The 50 Mbps Internet connection, because data can only travel as fast as the slowest link
- (D) The number of routers inside the building

7. Internet routing is typically *dynamic*. This means:

- (A) Packets cannot be rerouted once sent
- (B) The path a packet takes can change based on current network conditions
- (C) Every packet always follows the same predetermined route
- (D) The user manually selects the routers for each message

8. Network X has a bandwidth of 20 Mbps. Network Y has a bandwidth of 100 Mbps. A student sends a 200 MB file over each network. Which statement is true?

- (A) Network X is faster because it has less traffic
- (B) Both transfers take the same time because the file size is the same
- (C) Bandwidth has no effect on transfer speed
- (D) The file will transfer faster on Network Y because it has greater bandwidth

9. A set of rules that two devices must follow in order to communicate is called:

- (A) A router
- (B) A server
- (C) A protocol
- (D) A path

10. The Internet uses *open* (nonproprietary) protocols. A direct benefit of this is:

- (A) The Internet cannot grow beyond its current size
- (B) All Internet traffic is automatically encrypted
- (C) Anyone can build a device or write software that connects to the Internet without needing permission from a single company
- (D) Only government-approved devices can connect

11. The Internet was designed to be *scalable*. This means:

- (A) It can support an increasing number of users and devices without a complete redesign
- (B) Adding new devices requires replacing all existing ones
- (C) It can only operate in one country at a time
- (D) It has a fixed maximum number of devices

12. TCP, IP, UDP, and HTTP are all examples of:

- (A) Types of malware
- (B) Computing devices
- (C) Protocols
- (D) File formats

13. A student types `www.example.com` into a browser. Before the page loads, the browser must first:

- (A) Use DNS to translate the domain name into an IP address
- (B) Compress the web page into a ZIP file
- (C) Send the request as an analog signal
- (D) Convert the URL into binary and store it permanently

14. An IP address is best described as:

- (A) The brand name of a router
- (B) The bandwidth of a connection
- (C) A unique number assigned to each device on a network so it can be identified
- (D) A type of compression algorithm

15. If the DNS server a computer uses goes offline, the most likely result is:

- (A) The computer's own IP address changes
- (B) All stored files are deleted
- (C) All Internet connections worldwide stop working
- (D) The computer cannot resolve domain names to IP addresses, so websites won't load by name

16. When a video is streamed over the Internet, the data is:

- (A) Sent as one continuous analog signal
- (B) Stored entirely on the user's device before playback begins
- (C) Transmitted through a single dedicated cable
- (D) Broken into packets that are sent individually and reassembled at the destination

17. Each packet sent over the Internet includes:

- (A) Only the user's name and password
- (B) A copy of the DNS database
- (C) The entire original file
- (D) Data and metadata such as source and destination addresses

18. A student sends an email with a large attachment. The email arrives successfully, but some packets were lost during transmission and had to be re-sent. Which protocol is responsible for detecting lost packets and requesting retransmission?

- (A) HTTP (HyperText Transfer Protocol)
- (B) DNS (Domain Name System)
- (C) IP (Internet Protocol)
- (D) TCP (Transmission Control Protocol)

19. A multiplayer game uses UDP instead of TCP. This choice likely means the developers prioritized:

- (A) Guaranteed delivery over speed
- (B) Sending data as analog signals
- (C) Speed over guaranteed delivery, since a dropped frame matters less than delay
- (D) Encrypting every packet

20. Which statement about the Internet and the World Wide Web is correct?

- (A) The Internet is the underlying network infrastructure; the Web is a service that runs on top of it
- (B) The Internet requires the Web to function
- (C) The Web and the Internet are two names for the same thing
- (D) The Web existed before the Internet was created

21. HTTP is the protocol used by:

- (A) The World Wide Web to transfer web pages between servers and browsers
- (B) Routers to assign IP addresses
- (C) Computers to divide files into packets
- (D) DNS to translate domain names

22. A network is called *fault-tolerant* if it:

- (A) Automatically deletes corrupted files
- (B) Can continue operating even when some of its components fail
- (C) Never experiences any failures
- (D) Uses only one path between any two devices

23. Adding a second cable between two buildings that were connected by only one cable is an example of:

- (A) Encrypting the network
- (B) Removing a protocol
- (C) Reducing bandwidth
- (D) Adding redundancy to increase fault tolerance

24. A network diagram shows that Server A can only be reached through a single router. If that router fails:

- (A) Server A continues to work normally
- (B) Server A becomes unreachable because the router is a single point of failure
- (C) Data automatically bypasses the failed router
- (D) The entire Internet shuts down

25. A cloud company stores copies of customer data in three different data centers across the country. This is primarily an example of:

- (A) Encryption
- (B) Bandwidth
- (C) Redundancy
- (D) Compression

26. Which *two* statements about redundancy are true?

(Select two answers.)

- (A) It generally requires additional resources such as extra hardware or connections
- (B) It always reduces the cost of a network
- (C) It eliminates the need for protocols
- (D) It helps a network remain functional when individual components fail

27. A company has three offices, each connected to the other two by a direct link. If one link fails:

- (A) All communication stops
- (B) All three offices can still communicate because alternative paths exist
- (C) The company must rebuild the entire network
- (D) Only the two offices whose link failed are affected

28. A rural community has no broadband Internet access while nearby cities have high-speed connections. This disparity is an example of:

- (A) The digital divide
- (B) Redundancy
- (C) Fault tolerance
- (D) Packet switching

29. Which *two* actions would most likely help reduce the digital divide?

(Select two answers.)

- (A) A government program that provides free Internet access in underserved areas
- (B) Raising the price of Internet service to fund faster networks
- (C) A nonprofit that donates refurbished laptops to low-income families
- (D) Requiring all students to purchase the latest smartphones

30. The digital divide can affect people's access to:

- (A) Only social media
- (B) Nothing important, since all essential services are still paper-based
- (C) Only video games
- (D) Education, employment, healthcare, and civic participation that increasingly require Internet access