Here is a **30-question IP Protocol Networking exam** suitable for high school Cybersecurity / Networking students (aligned with Security+ / intro networking level like you typically use in your classes). Each question has **5 options**

IP Protocol Networking Exam

Insert your standard address

Read my notes.

Name your file: PX_IPProtocol_name.pdf

Answer the questions below: Circle the correct answer

Drop off this document into google classroom.

Multiple Choice

Choose the BEST answer for each question.

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1. What does IP stand for?

A. Internet Process
B. Internal Protocol
C. Internet Protocol
D. Integrated Packet
E. Information Path

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2. Which layer of the OSI model does IP operate at?

A. Application
B. Presentation
C. Network
D. Transport
E. Data Link

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3. What is the primary purpose of IP?

A. Encryption
B. Routing packets between networks
C. File storage
D. Error correction
E. User authentication

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4. IPv4 addresses are how many bits long?

A. 16 bits
B. 32 bits
C. 64 bits
D. 128 bits
E. 256 bits

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5. Which is a valid IPv4 address?

A. 192.168.1.256
B. 10.0.0.1
C. 300.20.5.1
D. 192.168.1
E. abc.def.ghi.jkl

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6. IPv6 addresses are how many bits long?

A. 32 bits
B. 64 bits
C. 96 bits
D. 128 bits
E. 256 bits

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7. What is a subnet mask used for?

A. Encryption
B. Identifying network and host portions of an IP address
C. Compressing packets

D. DNS resolution
E. Firewall filtering

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8. Which protocol translates domain names into IP addresses?

A. FTP
B. HTTP
C. DNS
D. SMTP
E. ARP

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9. Which IP address range is private?

A. 8.8.8.8
B. 172.16.0.0
C. 200.1.1.1
D. 150.10.10.10
E. 45.22.33.44

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10. What device forwards packets between networks?

A. Switch
B. Hub
C. Router
D. Bridge
E. Repeater

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11. Which protocol maps IP addresses to MAC addresses?

A. DNS
B. ARP
C. TCP
D. UDP
E. ICMP

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12. What is the loopback IP address commonly used for testing?

A. 255.255.255.255
B. 127.0.0.1
C. 192.168.1.1
D. 10.10.10.10
E. 224.0.0.1

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13. What type of IP address identifies a specific device?

A. Broadcast
B. Network address
C. Host address
D. Multicast
E. Gateway address

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14. What does DHCP provide?

A. File transfers
B. Automatic IP address assignment
C. Encryption
D. Web services
E. Email services

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15. Which address sends data to all hosts on a network?

A. Multicast
B. Broadcast
C. Host
D. Loopback
E. Gateway

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16. Which protocol is connectionless?

A. TCP
B. UDP
C. HTTP

D. FTP
E. TLS

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17. What is the default subnet mask for a Class C network?

A. 255.0.0.0
B. 255.255.0.0
C. 255.255.255.0
D. 255.255.255.255
E. 255.255.128.0

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18. Which IPv4 class has addresses from 192.0.0.0 to 223.255.255.255?

A. Class A
B. Class B
C. Class C
D. Class D
E. Class E

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19. What is NAT used for?

A. Encrypt traffic
B. Translate private addresses to public addresses
C. Detect malware
D. Compress data
E. Block spam

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20. Which IP version supports a much larger address space?

A. IPv1
B. IPv2
C. IPv4
D. IPv6
E. IPv8

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21. What does ICMP primarily do?

A. Transfer files
B. Send emails
C. Error reporting and diagnostics
D. DNS lookup
E. Authentication

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22. What command tests connectivity using ICMP?

A. ping
B. dir
C. copy
D. format
E. net use

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23. What is the purpose of a default gateway?

A. Store files
B. Connect to external networks
C. Encrypt data
D. Provide DNS
E. Authenticate users

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24. Which type of address identifies a group of hosts?

A. Broadcast
B. Loopback
C. Multicast
D. Host
E. Gateway

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25. Which header field limits how long a packet can exist?

A. TTL (Time to Live)
B. MAC
C. Frame check

D. Checksum only
E. Session ID

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26. Which protocol ensures reliable delivery?

A. UDP
B. IP
C. TCP
D. ARP
E. ICMP

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27. What does CIDR allow?

A. Faster encryption
B. Flexible subnetting and routing
C. File compression
D. Email filtering
E. Packet encryption

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28. What is the purpose of fragmentation?

A. Encrypt packets
B. Break packets into smaller pieces
C. Speed up CPU
D. Compress images
E. Create VLANs

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29. Which IPv6 notation is valid?

A. 192.168.1.1
B. FE80::1
C. 300.300.300.300
D. ABC.DEF.GHI.JKL
E. 255.255.255.255

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30. What does a subnet divide?

A. Files into folders
B. Network into smaller networks
C. Users into groups
D. Protocol into versions
E. Routers into segments
