PRACTICE QUESTION

1. Describe briefly about Internet Protocol with examples.

* The Internet Protocol (IP) is the principal [communications protocol](https://en.wikipedia.org/wiki/Communications_protocol) in the [Internet protocol suite](https://en.wikipedia.org/wiki/Internet_protocol_suite) for relaying [datagrams](https://en.wikipedia.org/wiki/Datagram) across network boundaries. Its [routing](https://en.wikipedia.org/wiki/Routing) function enables [internetworking](https://en.wikipedia.org/wiki/Internetworking), and essentially establishes the [Internet](https://en.wikipedia.org/wiki/Internet). IP has the task of delivering [packets](https://en.wikipedia.org/wiki/Packet_(information_technology)) from the source [host](https://en.wikipedia.org/wiki/Host_(network)) to the destination host solely based on the [IP addresses](https://en.wikipedia.org/wiki/IP_address) in the packet [headers](https://en.wikipedia.org/wiki/Header_(computing)). For this purpose, IP defines packet structures that [encapsulate](https://en.wikipedia.org/wiki/Encapsulation_(networking)) the data to be delivered. It also defines addressing methods that are used to label the datagram with source and destination information.
* Examples:  
  a. FTP – File Transfer Protocol - 21

b. Gopher

c. Telnet

1. Describe about OSI Reference Model.

* OSI – Full Form – Where to use

Layers Explain with Examples – PDNTSPA – each 1 examples

1. How TCP/IP differs from OSI Reference Model?

* What is TCP/IP then explaining OSI Model full form where to use
* OSI – TCP – why OSI or TCP is better justify
* 5 different points with examples
* OSI 7 Layers – TCP 4 Layers

1. Differentiate between TCP & UDP.  
   TCP Full form and Usage  
   UDP Full form and Usage  
   Differentiate TCP/UDP with proper suitable examples
2. Explain briefly how TCP/IP works.  
   Working Mechanism taking from Bottom to Top and Top to Bottom approach   
     
   request send message receive
3. What is IP Address? Describe its types.  
   IP explain , why IP address is required explain. Types : ABCDE – with example  
   Class A, B, C  
   A – 10  
   B – 172  
   C – 192  
   D – 202  
   E - 250
4. What is Ipv6 Ipv4 Dual Stack? Describe  
   IPV6 Explain – Combination of alphabets and numeric 12345bhacj345hju – IPV6

IPV4 Explain – How it is generated – ABCDE – Example – 192.168.1.1 –

How it is different –

IPV6 IPV4

Unlimited Limited

Combination of Numeric only

Same class Different class

Public Static and Dynamic

Dual Stack – IPV4 Stack – IPV6 Stack

1. What do you mean by protocol? Describe any 4 protocols.
2. Explain briefly about IPV4 Class address.  
   Class A – 10, Where it is used, Privacy and Security

Class B – 172, Testing, Local host

Class C – 192, Home Use

Class D – 202 , Static IP, ISP

Class E – 250, Static IP, Super Domain

1. What do you mean by Three-way handshake? Explain briefly with diagrammatic representation.  
   Sync ----- Ack ------Sync/Ack…Syn/Ack

Hello ------------Sync -----------

Sync --------- Hello

K cha Ack

Sync/Ack Thik cha

Khana khayes Sync/Ack Khaye

1. Explain briefly about **SCTP. (Hints – File Transfer Protocol)**
2. What is Ipv6 Ipv4 Dual Stack?
3. State any 6 Laws of Computing.   
   Laws – Protocol Same meaning  
   a. Metcall’s Law

b. Moore’s First Law

c. Bell’s Computer Classes

d. Glider’s Law

e. Bill’s Law

1. Explain briefly about IPV4 address.
2. Explain about IP Class Address in IPV4 in detail.
3. Why Are We Running Out of Ipv4 Addresses? Why Can’t We Just Make More Ipv4 Addresses?  
   IPV4 Stack – Limited number of IP Provide in case of Public IP – Dynamic IP   
   ISP

L3 – Network – Local IP – Local Gateway – 192.168.1.5 – 192.16.1.1 connection ISP – Request Static Convert – Send – Reply convert – Sent to me

Static IP – Public IP – Individual IP – Citizenship Number – Passport Number – Driving

Static IP – SUMAN1987APR04MON20 –

Static IP – Facebook Constant

Static IP – Fixed – ISP Route Send and Receive

IP:  
Subnet Mask: Divide – 255^255

7 Billion People – Insufficient – 100 and 1000 of Applications and Software

1. Is IPv6 ultimate solution for IP address? Justify
2. What do you mean by protocol Tunneling? Explain with different protocols used for tunneling.
3. Though IPV4 Addresses have more than 4 billion of available IP addresses but all are not in use. Why? Explain with concrete reason.
4. Explain about TCP/IP model. Describe each layer of TCP/IP model along with their functions. Briefly describe the name of any two protocols used in different layer of TCP/IP model.
5. Explain about OSI Reference model. Describe each layer of OSI Refence model with diagrammatic representation.
6. How TCP/IP differs from OSI Reference model? Justify with the help of their layer and functionalities
7. Explain briefly about TCP Header Format.
8. Explain briefly about SNMP.
9. Explain about Reed's Law and Beckstrom's Law along with example.
10. Write short notes on:
    1. Router
    2. Public Network
    3. Gateway
    4. Network Part
    5. SAN
    6. Firewall
    7. Fragmentation
    8. Private Network
    9. Host Part
    10. Network Part
    11. VPN
    12. Firewall
    13. Client Server Architecture
    14. IPV6 IP Address
    15. Ipv6 Ipv4 Dual Stack
    16. SNMP
    17. Client Server Architecture
    18. IPV6 Datagram
    19. Nodes and Host