

February 2016

16

Tuesday

047-319

Wk 8

Internet

* Internet :- International Network

Cluster :- A set of computer which are loosely connected to each other

* What is Internet :-

- Internet is a inter connected Network
- Internet is a network of network

* Internet is also called -
① Internetwork
② ARPANET
③ information Highway सूचना राजपथ

[Def] EX → IP :- Internet work Protocol
Internet Protocol

* ARPA : Advance research Project Agency

* Internet } - (WAN)

* Internet

* Internet 2

* Intranet

* Extranet

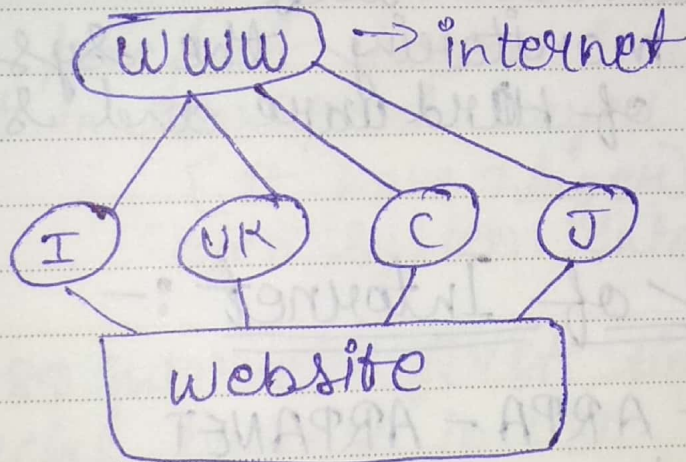
} > Private Network (LAN)
(MAN)
main server

* internet :- Network of network

* Internet :- A specific name for world wide web [www]

• Provide the higher quality Bandwidth Connection

* A number of bits that be transmitted over a network in a given time [LAN]



EX - www.google.com
www.google.co.in

* Internet 2 :- Internet 2 is a private organisation in USA which Intsonet work in within organisation

* Intranet :- when Internet connect to the other private network.

• Granting and outside organisation to

February 2016

18

Thursday
049-317
WK 8

access the web page in implemented using an extensel.

Proxy server [mini server] :-

It convert the private network to main server

Firewall :- To provide the security against unauthorised user
Firewall monitoring the system.
Combination of hardware and software

History of Internet :-

- * 1969 - USA - ARPA - ARPANET
- * Launch by Larry Roberts
- * Father of internet Vint Cerf
- * Internet, WAN and WWW started with only four sites.
- * Internet first time used by US Army

2016 February

19

Friday
050-316
WK 8

* Internet is a client server architecture

* Internet based on TCP/IP model [It have 4 layers]

TCP :- Transmission control Protocol.
Set of rules

* Data transfer on internet in the form of packet.

* Data packet broken in the form of segment in transport layer of OSI model
[It have 7 layers]
Open system interconnection

* In 1989 internet first time used for commercial purpose in USA

* First message on internet -> LO [LOgin]

#

* In India 15 Aug - 1995 - launch by VSNIT [विज्ञान संशोधन संस्थान]

* BTP is a first political party which generate the website on internet

* Sikkim first time upload the telephone directory on internet.

- * The Hindu is the first newspaper published on internet
- * India Today is the first magazine published on internet
- * First computerized post office located at New Delhi

*# Components of Internet

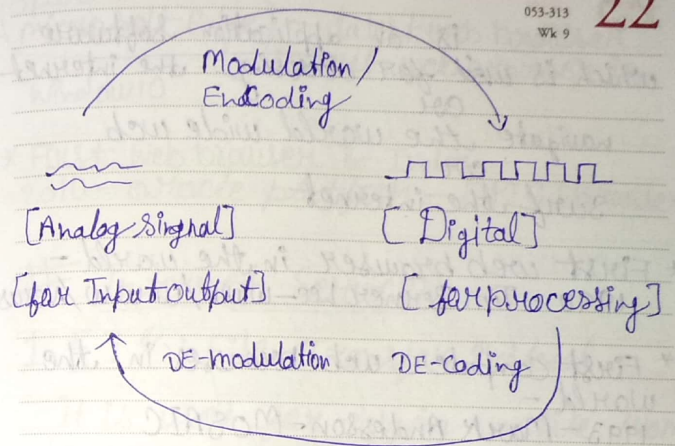
1. Computer system / PDA Devices (hand held device)

- * 32 MB RAM
- 21 ~~Monday~~ 4 GB HDD
- * 300 MHz - Processor

2 Modem

- * Modulator Demodulator
- * Modem is the combination of hardware and software and which work on

Modulation and Demodulation



3 ISP

- * Internet Service Provider
- * It provide the services and generate the IP for eg - BSNL, MTNL, Docomo, Vodafone etc.

BSNL :- Bharat Sanchar Nigam Ltd.

MTNL :- Mahanagar Telephone Nigam Ltd.

DOCOMO :- Do communication over the mobile Network

Vodafone :- voice Data Fone

February 2016

23 Tuesday
054-312
WK 9

4 Web browser

is an application software which is used for accessing the internet or navigate the world wide web surf the internet

* First web browser in the world - 1990 - Tim Berners Lee - www / w w w / n e x u s

* First computer web browser in the world - 1993 - Mark Andelsson - MOSAIC

[* Alta VISTA is a type of search engine]

MOSAIC - Text only web browser

- Lynx
- eMule
- Net Scape Navigator - widely used web browser
- IE
- Safari
- Mozilla Firefox
- Opera
- google chrome
- opera mini
- UC browser

2016 February

Wednesday
055-311
WK 9

24

IE-11 → last version of IE
Spartan - latest web browser
Microsoft Edge - default web browser in Windows 10

* First web browser in India - 2010 - Oracle platform - FIC (Browser

Internet Services

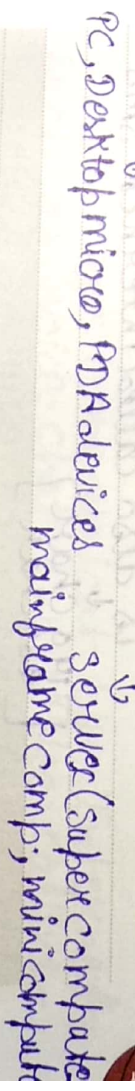
FTP: File Transfer Protocol

It is used for copying a file from

These process which used FTP Protocol

(i) uploading -

It means copying a file from local computer to Remote computer



(ii) Downloading - Shareware, Freeware

February 2016

Thursday

25

056-310
Wk 9

Copying from

Remote computer - to local

computer

Shareware: All free trial software is called shareware

eg Antivirus, IDM (Internet download manager),

Free ware: All free software is called freeware.

eg Winzip, web browser, Linux etc.

(iii) use net group / groupware -

This service enable the group of internet user to exchange their views

eg ① social networking sites -

- Facebook - 4 Feb 2004 - Mark Zuckerberg
- Twitter - 21 March 2006 - Jack Dorsey

[100 char]
[800 char]

② Blogs = Personal logs or journal entry

2016 February

Friday

26

057-309
Wk 9

Posted on the wall by using Blogs

③ Instant Messaging

online messaging

eg - what app, HiKe, Google Allo etc.

[Instagrams
online PDF files]

2 Telet: Tele communication network

breakword - means - FAX

Telet is a client server application model which provide the way to connect remote computer

Internet Telephony:

When we communicate by Internet such as voice chat and video calling in which we use voice over internet Protocol (VoIP)

VoIP also used in this

(207/307/LTE / VoLTE / 407/507)

long term evolution
Voice over LTE

February 2016

3 Hackers

27

Saturday
066-306
MAR 9

A person who use his/her knowledge for copy the information or do damage the system.

Hacker Attacks:

(i) Phishing or Spoofing -

Phishing is a process in which we copy the customer ID, password, many transaction and another important information.

(ii) Key logger -

Key logger in an application in which we copy the every key stroke

(iii) Packet Sniffer -

is also an application in which we create the image of data packet and by using this we find out the password

2016 February

Monday

29

(iv) Root Kit -

Root Kit is a technique in which we conceal the network security by using a specific code.

4 Email [Electronic mail]

• Email developed in 1971 by Ray Tomlinson

[* Hatmail: developed in 1996 by Robert Brista - 1999 - 400million - nicolas]

• Email ID - [User name @ domain name]

Email ID is the combination of username and domain name

@ separates the username and domain name and established by email in 1972

Email look like as a writing a letter

How we create a mail
- compose - mail

March 2016

1
Tuesday
061-305
WK 10

To :- Receiver address

CC :- Carbon copy

BCC :- Blind carbon copy

Both are used for sending a mail for multiple person and BCC is mainly used for security purpose.

Subject :- Title or message

Attach -> 25 MB data can be attached in a mail

which position of E mail filled automatically

From, Date & Time

• Inbox (mail box) - All Incoming mails.

• Sent mail - All sent mail

• Draft - ~~Deleted~~ ^{save} mails

• Trash - Deleted mails

• Outbox - Error affected and network failure mail

2016 March

Wednesday

2

- Spam :-
 - (i) Junk Email [Error and affected mails]
 - (ii) unwanted Email [when security is applied]
 - (iii) undelivered Email [like bank emails since it email server is the address]

How we send a mail

By using SMTP

SMTP is a protocol which is used for sending or mail [Simple mail Transfer Protocol]

Some important Protocol :-

① U.A - User Agent

② MTA - Mail Transfer Agent

③ MIME - Multipurpose Internet mail Extension

④ POP-3 / IMAP - Post office Protocol
Internet message Access Protocol

It is used for uploading and downloading an E mail.

March 2016

3

Thursday
063-303
Wk 10

* www [world wide web]

* www [www]

Also called web or w₃

• A web is a repository of website (spider of website) spread all over the world and linked together.

Head office - USA - 1989 by Tim Berner Lee

* Website -

website is a collection of related web page.

* Web hosting -

Web hosting is a process in which we upload the website on remote computer.

* Home page -

It is also called main page / first page / master page.

It contain the introduction of the website along with Hyper link.

2016 March

Friday
064-302
Wk 10

4

* Hyper link -

Hyper link is also called Hyper Text / Hyper media

Hyper link is a pointer which point the another page to another website.

When we position the pointer on the hyperlink the pointer shape look like as a Hand.

When we want to open the multiple website on web browser we use Tabrow

[google.com / facebook / gmail / net top]

Tabrow

⊗ Cookies :- Cookies is a small piece of information send by website and stored in web browser.

• History list view the website his visited over the period of time.

March 2016

5 Saturday
065-301
WK 10

* Web Page -

A Hyper text document which can section in different type of web language

• Hyper Text :- different type of a Text.

• Web language :- A language in which we generate the web page.

EX (i) HTML [Hyper Text markup language] & most web page generate in this

(ii) d-html [dynamic hyper text markup language]

(iii) JAVA [At present most web page generate in JAVA]

* Code of HTML & JAVA posted on note pad

• PHP - Hyper text page processor

2016 March

7 Monday
067-299
WK 11

• JSP - JAVA server page

• ASP - Active server page

• VB script - Visual Basic

• JAVA script

• NET

• Perl - A dynamic web language etc.

* NET is not a language is a framework.

5 URL

• Uniform Resource locator
• URI / URN / web address
↓
↓

Identifier network

• Posted on address book
• URL identify the specific website on the web
• URL first time use in - 1994 by ARPA NET

March 2016

8

Tuesday
068 298
WR 11

* Structure of URL -

Method: // host name . Port Name : Port No / Path

Protocol Identifier Domain address

EX http: // www.google.com:80/news.html / APPVIEW

http :- Hyper Text Transfer Protocol
It is the heart of www which recognise the website

https :- It is used for security purpose Here 's' stand for server.

o Domain name is the part of URL
* www is not mandatory for

port name / Domain address

port name identify the type and quality of website

2016 March

Wednesday

069 297
WR 11

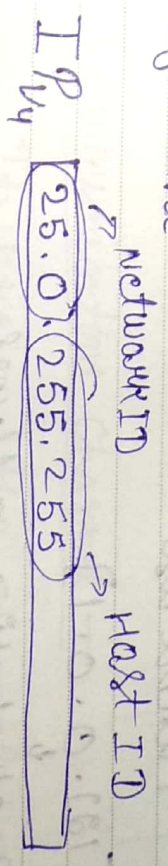
9

- * .com
- * .in -> Indian website
- * .int -> International website
- * .org -> Organization
- * .edu -> education
- * .gov -> government
- * .NET -> Net work related
- * .MIL -> Military website

- .ac.in - Academic in India
- .co.in - Corporate in India
- .nic.in - National Informatic center in India

IP address -> Internet work Protocol

every website have a unique no is called IP.
widerly used IP address is IPv4
which work with the numeric type of data



IPv4 :-

March 2016

10

Thursday
070-296

It divided into 4 part & separated by Dot or period every part of IP address is called Octets and have the range between (0 to 255)

* Length of IPv4 32 bit / 4 byte and total no of addresses 2^{32}

IPv4 is divided by 5 classes

- Class A → 0 to 127
- Class B → 128 to 191
- Class C → 192 to 223
- Class D → 224 to 239
- Class E → 240 to 255

used for mulical
Future use

[127.0.0.1]

Back looping address
locate for server

2016 March

Friday
071-296

11

* At present we use IPv6

which work with the alphanumeric type of data.

IPv6 is divided by 8 parts and separated by column symbol.

length of IPv6 - 16 byte or 128 bits No of total addresses - 2^{128}

DNS - Domain name system/server

convert to domain IP and IP to domain

www.google.com
(domain name)

↓ - DNS
Converted to IP

Communication channel -

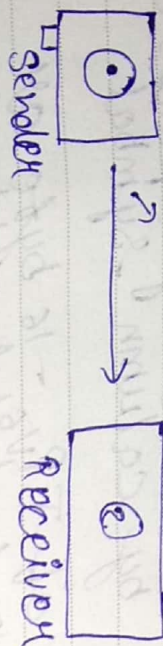
It provide the channel or path between to linked device

3 Type of channel -

- (i) Simplex
- (ii) Half Duplex
- (iii) Full Duplex

(i) Simplex

Way for communication

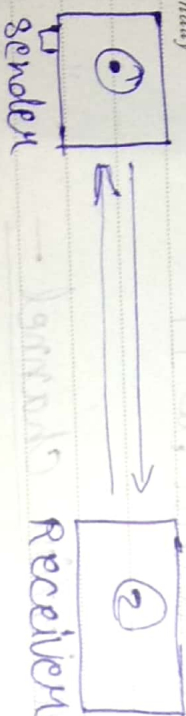


• Communication will be unidirectional or the direction of data flow will be in one way

eg: Keyboard, mouse, TV Remote

(ii) Half Duplex

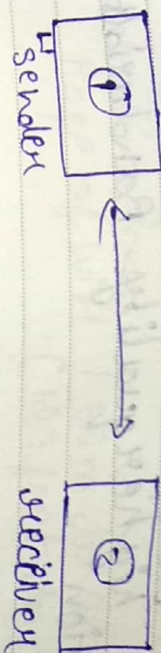
13 Sunday



Both station can transmit and receive but not at the same time like a one line road with two directional traffic

Eg: Bluetooth, walky Talky

(iii) Full Duplex



Like a two line road with two directional

Each station can transmit a receive at the same time
eg Telephone system

Data Transmission line

1. Dial-up line / switched line

Dial-up line operate like a telephone service. But at present dial up line work with the Broad band techniques

In Broad band Technique we use DSL cable
Digital Subscriber line / Dsl

March 2016

15

Tuesday
075-291
Wk 12

2. Leased line / Private line Dedicated line

Leased line is a special condition telephone line which provide higher quality Bandwidth connection

3. ISDN [Integrated Service Digital network]

It is a digital data service so no need of modem.

4. Sancharnet Card

It is a pre paid internet connection developed for BSNL

5. NIC - network Interface Card

NIC is a hardware component and also called Ethernet card / LAN card

2016 March

Wednesday

16

6. Wireless tech.

(i) Wi-Fi [Wireless Fidelity] - LAN

To used establish a wireless communication.

Range of Wi-Fi [33m to 95m]
[120 feet to 300 feet]

(ii) Li-Fi (Light Fidelity)

(iii) Wi-Max

Provided at home or mobile internet access across countries used in WAN

Stand for world wide intra operability for microwave Access