

B.L.D.E. Association's

S. B. ARTS & K. C. P. SCIENCE COLLEGE,
VIJAYAPUR

Name of the Student : Soumyashree R. Handi

Roll No. : 04 R.C.U. Seat No. : PJGKNS108003

Subject Code No. : _____

Subject. : Data Base Management System

Test	Maximum Marks	Marks Obtained
First Test	20 7	08+2 3+1 <u>am</u>
Second Test	20 10	20 10
Third Test		
Total (Two best of three)		14 + 3 = 17 <u>am</u>

am
Signature of
Faculty

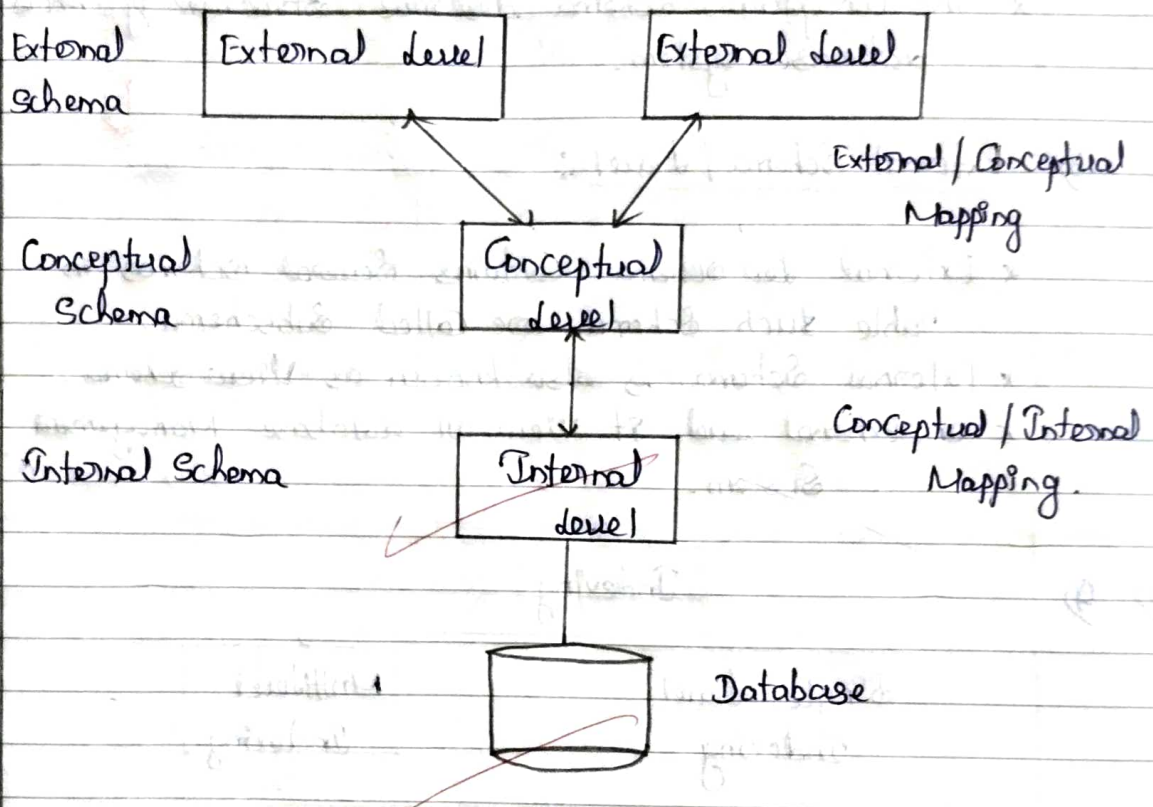
R. D. Jamba
Signature of
Co-Ordinator

Signature of
Principal

- 6) Three Schema Architecture is also called as ANSI/SPARC and are also called Three level Schema.

The Three Schema Architecture is categorised by Three levels

- 1) External level
- 2) Conceptual level
- 3) Internal level



1) Internal Schema / level:

- Internal Schema is also called as physical level.
- Internal Schema has a Internal level.
- Internal Schema which describes the physical structure of data base system.
- Internal Schema is Mapping between Conceptual and Internal Mapping.

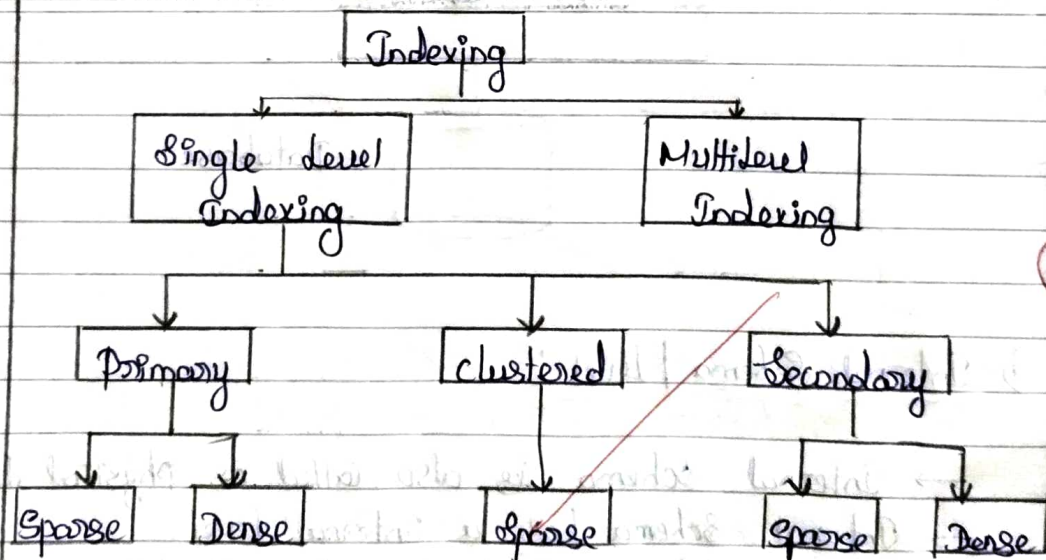
2) Conceptual Schema / Level:

- * Conceptual Schema is also known as logical Schema.
- * This level helps the programmers to develop the software.
- * The Conceptual Schema is Mapping between Internal External and Conceptual level.
- * The Conceptual Schema describe Structure of whole database system.

3) External Schema / Level:

- * External Schema Contains Several Schemas in Table Such Schema are called Subschema.
- * External Schema is also known as View Schema.
- * In External level it View all database Management System.

4) ~~4~~



1) Primary Indexing:

- * In primary Index it Contains primary key.
- * The primary Index will store data in Correct Manner.
- * Primary Index Contains single level Index.

* Primary Index has a Two fields or Two Types.

1) SPARSE

2) DENSE

1) SPARSE :-

* It Stores the data and Retrieve data

* In this it is very easy to insert, delete or update the Column.

* In Sparse it take less time to Search.

* The Values will Store in Connect Manner.

2) DENSE :-

* In dense it takes More time.

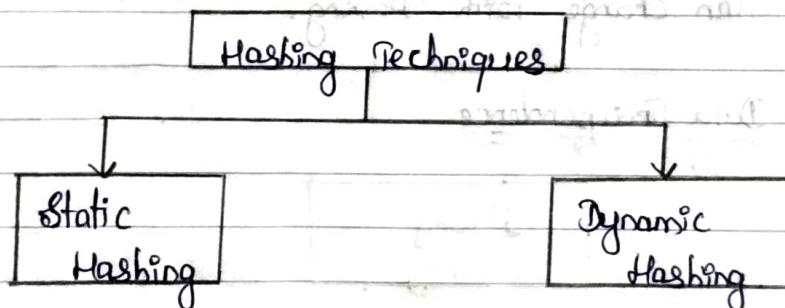
* In dense it takes More Space to insert the Values.

example !
must

* It is very helpful to Search the data.

3)

Hashing Techniques



1) Static Hashing :

Static Hashing is to store and retrieve the data in Table and it has Constant Value is called Static Hashing.

In Static Hashing we have So Many ^{operations} Typ Categorised -

1) Searching

2) Inserting

3) Deletion

4) update

Searching :

Searching key is used to search the recording in a file.

Inserting :

Insert the new values to the file.

Deletion :

Delete the records in the file or Table.

Update :

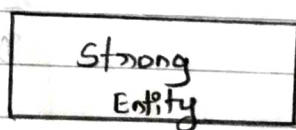
To update the records in the Table.

2) Dynamic Hashing :

* Dynamic Hashing is one of the Hashing Technique.

* Dynamic Hashing is one in which data can change with Hashing.

5) a) Data Independence



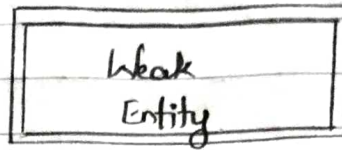
* Data Independence is called as Strong Entity. It does not depend on other Entity.

* It has its own primary key. It takes its own responsibility.

* Data Independence Means it won't depend any data on Entities.

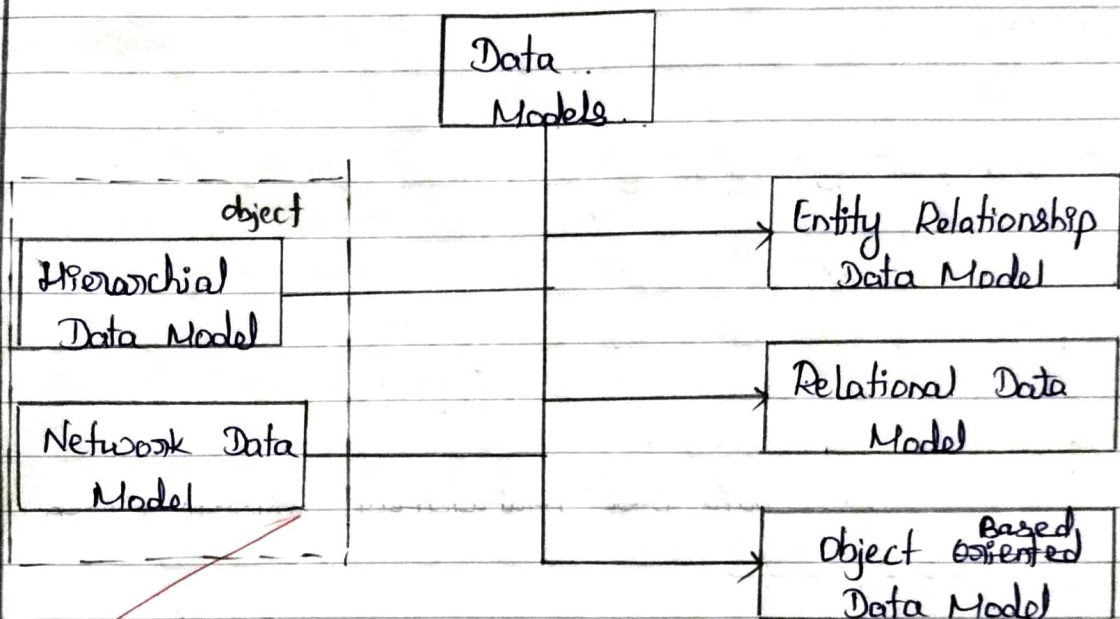
* It create its own data

b) Weak Entity :



- 2)
- * Weak Entity is Data Dependence.
 - * Weak Entity does not contain any primary key.
 - * It depends on other Entities.
 - * It can depend on other primary key.

2)



1)

i) Entity Relationship Data Model :

It is a logical representation and it has Relation data Model. It will connect one to another Entity.

Final Internal Test

I) 1) join :- join is a Data Base Management System which combines two different tables with a column is called a join.

Types of join are

1) Inner join

2) Outer join

* Inner join is again divides 3 types

1) Theta join

2) Equi join

3) Natural join

* Outer join is again divides into 3 types

1) Left outer join

2) Right outer join

3) Full outer join

1) Inner join :- Inner join is a type of a join in Data Base Management System which the data is inside the sub table is called a Inner join.

Table - 1

Num	Num
1	4
2	2
3	3
4	1

Table - 2

Num	Num
6	6
8	10
9	8
10	10

1) Theta join :- Theta join is a join operation in Data Base Management System which it consist to or more tuples to consist to or more tab operations to form a table is called Theta join.

It is Denoted by ' θ '

2) Equi join :- Equi join is a join operation in Data Base Management System it is in equal form which compare the both table and which has same column is called Equi join.

It is denoted in '=' (equal sign)

Num(1)	Num(2)
2	2
3	3
6	6
10	10

3) Natural join :- Natural join is a join operation in Data Base Management System which combine both table to form one table is called Natural join.

Num(1)	Num(2)
1	4
2	2
3	3
4	1
6	6
8	10
9	8
10	10

4) outer join :- outer join is join operation in Data Base Management System which the data is combine outside the subtable is called outer join.

It is 3 types

- 1) Left outer join
- 2) Right outer join
- 3) Full outer join

#)

Num	Square	Num	Cube
2	4	2	8
4	16	4	64
6	36	6	216
8	64	5	125

1) Left outer join :- Left outer join is operation of a join in a database Management System which the Column is in situated left of the Table insertion the Values of Right & Insert the Values of Left is called Left outer join.

Num	Square	Cube
2	4	8
4	16	64
6	36	216
8	64	-
5	-	125

2) Right outer join :- Right outer join is a operation of a join in a database Management System which insertion is from Right and inserted input from Right is called Right outer join.

Num	Square	Cube
2	4	8
4	16	64
6	36	216
8	64	-

3) Full outer join :- Full outer join is a operation of a join in Data base Management System which Combines both Left and Right outer join Tables to form one Table is called Full outer join.

Num	Square	Cube
2	4	8
4	16	64
6	36	216
8	64	—
5	—	125

2) Normalisation :- Normalisation is a process to reduce the data redundancy to integrate the data is called a Normalisation.

Roll No	Name	Sub	Dept
1	Saanya	C++/C	CS
2	John	java/DB	CS
3	Akash	CSA/C	CS

Normalisation Takes Multiple process Those are

- * 1st Normal Form
- * 2nd Normal Form
- * 3rd Normal Form

1) First Normal Form :- First Normal Form contain single value attribute.

- * It contain single atomic values
- * It should only one primary key value.
- * It should contain each column contain single value.

3

Roll No	Sub	Dept	Subcode
1	C	CS	101
1	C++	EE	101
2	C#	CS	102
2	java	CS	103
3	DB	EE	104
3	DB	CS	103
4	CSA	EE	105

* 2nd Normal Form :-

- * It contains First Normal Form.
- * It has valid key attribute.
- * It contains Foreign Key.

Sub	Roll No	Subcode
C	1	101
C++	1	101
C#	2	102
java	2	102
DB	3	103
DB	3	103
CSA	4	104

Sub	Subcode
C	101
C#	102
DB	103
CSA	104

* 3rd Normal Form :-

- * It contains First and Second Normal Form.

- * It is Non transitive dependency.
- * It removes duplication of table value.

Roll No	Sub	Subcode
1	C	101
1	C++	101
2	C#	102
2	java	102
3	DB	103
3	DB	103
4	CSA	104

Sub	Subcode
C	101
C#	102
DB	103
CSA	104

Roll No.	Name	Subcode
1	Sourmy	101
2	John	102
3	Akash	103

5) Transaction :- Transaction is a operation which is take logic values and Input is called Transaction.

The properties of Transaction is
To do Transaction it takes Multiple Step to
Need Accurate Transaction we must follow A, C, I, D.

A = Accuracy

C = Compatibility

I = Isolation

D = Durability.

* Accuracy :- In Transaction Accuracy is Most Important
Whatever we Need Transaction we should
go step by step and we should put
Accurate input for data the Transaction
will be occurred if we put wrong data
The transaction get failure.

* Compatibility :- Compatibility in a transaction is
Most Important to Need correct
Transaction we Need Compatibility.

* Isolation :- Isolation is Most Important in Transaction.
It isolate the process whether the data
for the input is correct or wrong it
will check in the isolation.

⑤
* Durability :- Durability is Most Important in Transaction
it takes Accurate values in Transaction.

3) Schedule :- Schedule is process it takes Multiple Values in at a time is called Schedule.

* Serializability :- Serializability Combining both the tables in Multiple time and to check whether the Table is Serial or parallel we will use two types.

- 1) View Serializability.
- 2) Complict Serializability.

1) View Serializability :- View Serializability is to view the data in Table and it is Continue process of Transaction.

T_1	T_2
$w(R)$	
	$R(w)$
$R(w)$	$w(w)$

* Complict Serializability :- Complict Serializability is takes Three types
 $w(R)$, $R(w)$, $w(w)$

$A \rightarrow B$

$B \rightarrow C$

$A \rightarrow C$

T_1	T_2
$w(R)$	
	$w(R)$
	$w(w)$
$R(w)$	
	$R(w)$
$w(w)$	

3

S. B. ARTS & K. C. P. SCIENCE COLLEGE,
VIJAYAPUR

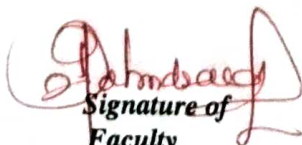
Name of the Student : Pragwal . D . yalaguderi

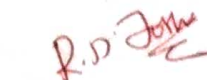
Roll No. : _____ R.C.U. Seat No. : P15KM92S038002

Subject Code No. : C390010

Subject. : C# and . NET Programming

Test	Maximum Marks	Marks Obtained
First Test	20 07 - 07	19
Second Test	20 10 - 10	20
Third Test		
Total (Two best of three)	17	17


Signature of
Faculty


Signature of
Co-Ordinator

Signature of
Principal

3] Features of ASP.NET.

- * It is ~~C#~~ ASP.NET is easy to language.
- * It is simple to use.
- * Modern programming language
- * It is type safe. code can only access the memory location that it has permission to execute.
- * It is scalable and updateable.
- * C# is component oriented programming language.
- * C# is structured programming language.
- * Rich library. C# provides a lot of inbuilt functions that makes the development fast.
- * Fast Speed: The compilation & execution of C# ~~prog~~ language is fast.
- * Interoperability: Interoperability process enables C#

1] Difference between C# & C++

C++

C#

- * C++ is low level language
- * C# is high level language
- * C++ is a lightweight language as compared to C#
- * C# language is more than C++ language
- * C++ code runs faster than the C# code & makes better solution
- * C# code runs slower than the C++ code
- * C++ does not provide automatic garbage collection
- * C# provides automatic garbage collection
- * C++ code is compiled to machine code
- * C# code compiles to ~~CLR~~ CLR which is interpreted by the JIT
- * C++ is not a complete object-oriented language
- * C# is a pure object oriented language

→ OS

5] Program to check whether the entered year is a Leap Year or not

```
using System;
namespace Pro3
{
    class CYear
    {
        private static void main (string args[])
        {
            int year;
            Console.WriteLine ("Enter the year");
            year = Convert.ToInt32 (Console.ReadLine());
            if (FnISLeapYear (year))
            {
                Console.WriteLine ("{} is leap year", year);
            }
            else
            {
                Console.WriteLine ("{} is not leap year", year);
            }
            Console.ReadLine();
        }

        public static bool FnISLeapYear (int year)
        {
            if (year % 4 != 0)
            {
                return false;
            }
            else if (year % 400 == 0)
            {
                return true;
            }
            else if (year % 100 == 0)
            {
                return false;
            }
        }
    }
}
```

```

else {
    return true;
}
}
}
}
}

```

4] Type of validations

1) Compare validator :-

It is used to compare the value of an input control against a value of another input control.

2) Range validator :-

It evaluates the value of an input control to check the specified range.

3) Regular Expression validator :-

It evaluates the value of an input control to determine whether it matches a pattern defined by a regular regular expression.

4) RequiredField validator :-

It is used to make a control required.

5) Validation Summary :-

It displays list of all validation errors on the web page

04



1] ASP.NET Server Control types

- 1) Validation Controls :- These are used to validate user input and they work by running client side script
- 2) Data Source Controls :- These controls provides data binding to different data sources
- 3) Data View Controls :- These are various lists and controls tables which can bind to data from data sources for displaying
- 4) Personalisation Controls :- These are used for personalization of a page according to the user preferences, based on user information
- 5) Logging and security Controls :- These controls provide user authentication
- 6) Master Pages :- These controls provide consistent layout and interface throughout the application
- 7) Navigation Controls :- These controls helps in navigation, For example menus, tree view etc.
- 8) Rich Controls :- These controls implement special features. For example, AdRotator, File upload, and calendar control

6

HTML

- * HTML stands for Hyper text markup language

- * HTML is static in nature

- * It is termed as a presentation language

- * HTML is a markup language

- * HTML can ignore small errors

- * HTML tags are predefined tags

- * There are limited number of tags in HTML

- * HTML tags are used for displaying the data

XML

- * XML stands for Extensible markup language

- * XML is dynamic in nature

- * It is neither termed as a presentation nor a programming language

- * XML provides a framework to define markup language

- * XML does not allow errors

- * XML tags are user defined tags

- * XML tags are extensible

- * XML tags are used for describing the data not for displaying

2]

ii) Checkbox:-

- * Checkboxes are used to choose as many options as desired at a time from a limited number of options.
- * You can select none, one or as many options are desired in a group of checkbox.
- * There also may be only one checkbox.
- * Choose a name that explicitly distinguishes two different states or contrasts.

iii) Radio buttons:-

- * Radio buttons are used to choose ~~as~~ one option at a time from a limited number of options.
- * Arrange radio buttons in group. Put at least two radio buttons in one group.
- * One radio button in group must always be selected.
- * If the user should have the chance to choose no item from the offered options. Create a separate radio button with a "No selection" label or similar text that turns off the other contents-related options.

i) Button: Button is an essential part of an application or software, or webpage. It allows the user to interact with the application or software. For example if the user want to exit from the current application or he click the exit.

- button which closes the application. It can be used to perform many action like to submit, upload, download etc according to the requirement of your Program

4] ADO.NET components

* connection

5] Uses of dataset object in ADO.NET

The following are the uses of ADO.NET

- i) Interoperability:-** We know that XML documents are text-based formats. So, one can edit & edit XML documents using standard text-editing tools.
- ii) Maintainability:-** ADO.NET is build around the idea of separation of data logic & user interface. It means that we can create our application in independent layers
- iii) Performance:-** It uses disconnected data architecture which is easy to scale & as it reduces the load on the client-side, so it improves performance.
- iv) Scalability:-** It means meeting the needs of the growing number of clients, which degrading performance. As it uses disconnected data access, applications do not retain database lock connections for a longer time.

✓ Programmability (typed programming):

It is a programming style in which user words are used to construct statements or evaluate expressions. for example: If we want to select the "Marks" column from "kawal" from the "Student" table, the following is the way to do so:

~~Dataset~~. Student ("kawal"). Marks;

0>

BLDE Association's
S. B. Arts & K.C.P. Science College,
Vijayapur - 586 103

Name : Nanya.v. uttreshwar

Roll No. : P17KM103802 R.C.U. Exam Seat No. 02

Subject Code : _____

Subject : DLCN

Test	Maximum Marks	Marks Obtained
First Test	07	07
Second Test	10	08
Third Test		
Total (Two best of three)	17	15


Signature of
Faculty


Signature of
Co-Ordinator

Signature of
Principal

I.

1) Data communication it is the process of sharing and receiving data in a particular protocol. when a sender sends a data the data should be reached to particular and accurate destination in time.

On the basis of data communication it has certain characteristics. they are:

1. Accuracy
2. Delivery
3. Timeliness
4. Fidelity

* Delivery: →

The data is delivered when a sender sends a data and there is a particular destination where receiver receives a data. This process is said to be delivery of a data. data is delivered in the form of bits i.e., it might be a text, audio, video etc.

* Accuracy: →

When a data is sent by a sender the it should be reached to the accurate destination. It is possible when there is a receiver present to receive data which is sent by a sender.

* Timeliness: →

Data transfer while communicating should be done in accurate time. if a sender sends a data if there is delay in receiving data it leads to problem, in case of video, audio or text an accurate time has to be maintained in data communication.

* Jitter: →

- Jitter is nothing but fluctuation of transmission of data. The data is not sent in accurate manner. it counts a frequency of failure.
for example: if a video sent in 30ms and it receives at 40ms there is a delay and due to certain inconsistencies it occurs.

2) Categories of Network: →

Network is a collection of communication links. Communication is bits in the form of Nodes.

There are certain categories of Network:

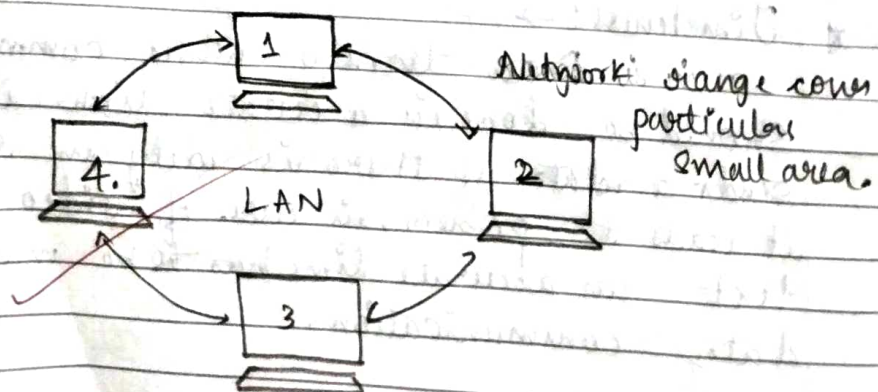
1. LAN

2. WAN

3. MAN

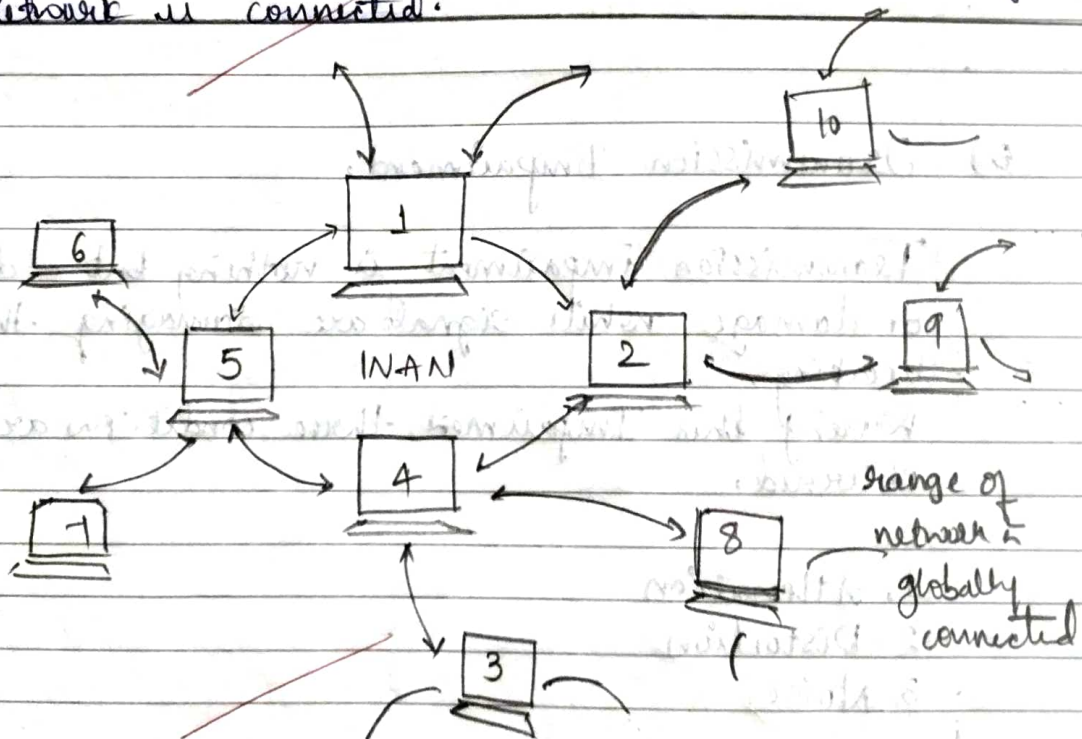
1. LAN: →

- * It is an acronym of Local area Network.
- * LAN is connected in small area which covers small distances.
- * Like in college, hospitals. where LAN connections are done.
- * It is not spread over wide range. it has certain range of network where it can be reached.



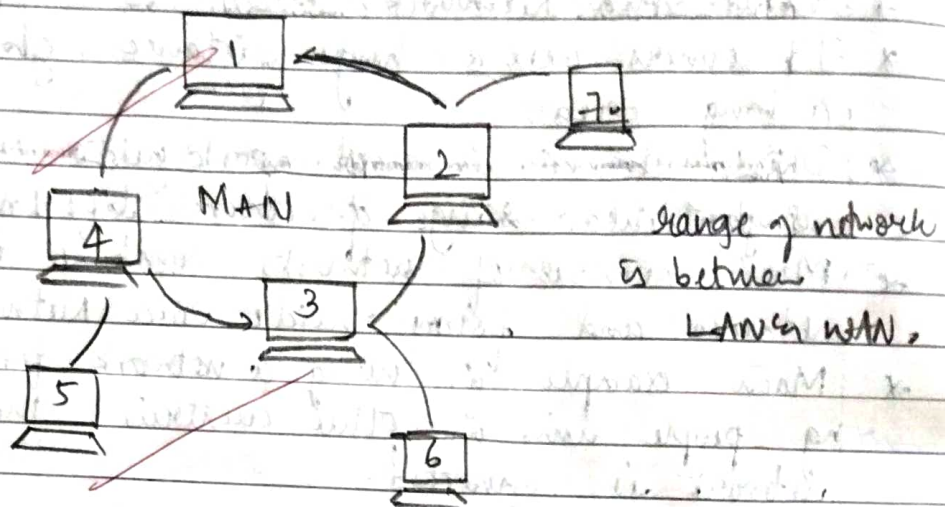
2. WAN :→

- * Wide Area Network.
- * It covers over a huge distance, globally over a long area.
- * This network is used worldwide there is no particular range of network like LAN.
- * More number of networks combine i.e. networking networks and forms Wide Area Network.
- * Main example is using a network for communicating people living in other countries this kind of network is connected.



3) MAN :→

- * An acronym of Metropolitan area network.
- * This network is between LAN and WAN.
- * It covers a distance more than LAN but less than WAN.
- * Network spreads over two cities, like Bangalore and Bijapur.
- * Connection is in between cities to cities.
- * Network range is not too high and not too low but connects more than two computers.



5) Transmission Impairment.

Transmission impairment is nothing but a disturbance or damage while signals are damaging their or breaking.

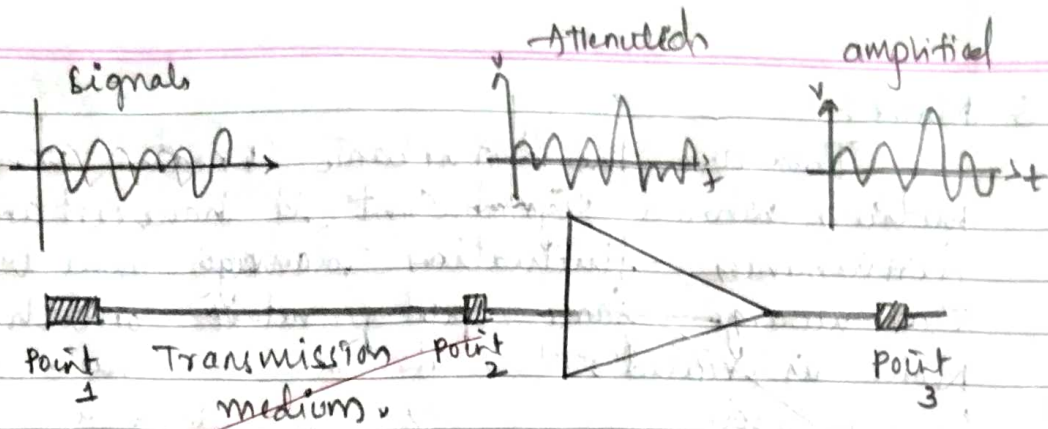
During this Impairment three conditions are observed.

1. Attenuation
2. Distortion
3. Noise.

1. Attenuation: →

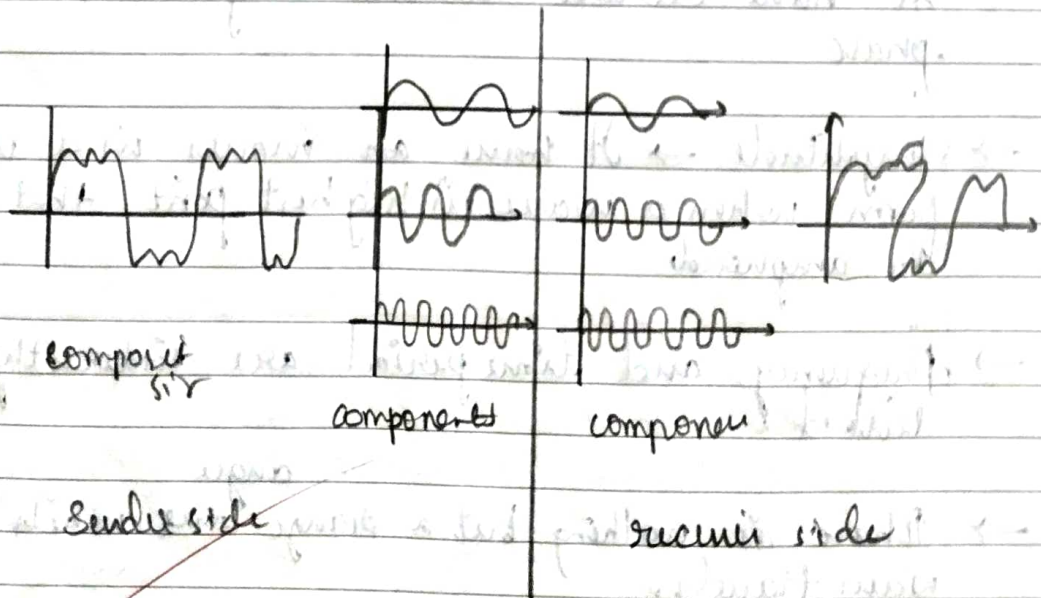
When a signal transmits there are certain fluctuations observed in signals. Data is not reached accurately, it forms an inconsistency while signals are transmitting. This is said to be attenuation.

To reduce this amplifiers are used by the process of amplification attenuation can be reduced.



2) Distortion: →

It is a damage or disturbance which is seen in signals while transmitting. Data to time delay or damage in signals. Due to certain cross talks, there might be crash in the sending signals. It contains single & composite signals. All signals which are sent are not single it might be composite. When a signal passes through a receiver, it receives a distorted data while receiving.



3 Noise:→

There are the disturbance created in a medium when a signal sent it have certain disturbances, fluctuations, damages due to cros wiring, same speed of network on both sides. Noise is created.

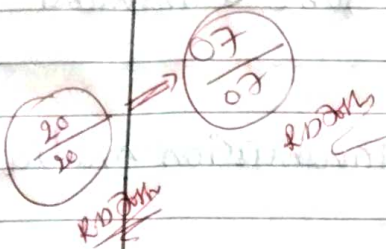
(5)

4) Periodic Analog signals:→

- An analog signals are signals which moves in a continuous manner
- Data or signals transfer without any damage of disturbance
- Like a wave form of transfer of signals occurs.
- It is an indication of sine wave graphs it have certain accurate amplitude, time, phase
- Amplitude → It have an moves in a wave form when a wave is highest point that is an amplitude
- frequency and time period are indirectly linked.
- Phase is nothing but a range ^{angle} one which on wave travels.
- Periodic analog signals travel in periodic repeated manner where there is repetition of wave form which have equal bandwidth amplitude and moves in continuous wave form.

* Analog signals are an example of a
noise like or music playing in continuous
manner without any discrete fashion.
No fluctuations occur.

(5)



I.

1. Transmission Media:

A media in which a process of movement of current carrying elements i.e. charges flow from one destination to another destination through different cables. said to be transmission media.

There are several types of Transmission media

1. Guided media
2. Unguided media.

* Guided media

- Coaxial pair cable
- Twisted pair cable
- Optical fiber cable.

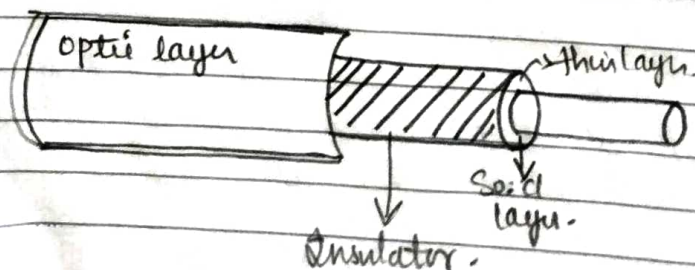
* Unguided media

- radio magnetic wave
- Infrared waves, media.
- microwave.

II. Optical fiber cable:

- The most widely used cable for transmission media of Guided media.
- Optical fibers are thin cables which is extended to a long distance.
- Optical fibers are connected from countries to countries, nowadays these fibers plays a vital role.

* Structure:



- Structure of optical fiber it have three layers inner layer which conducts the electricity, the middle thin layer which have certain chloride compounds which makes the exact transmission. And a third layer which is completely insulating an optic layer. which doesn't conduct electricity.

Advantages:

- * Used for long distance transmission.
- * Used in or compatible in both or every conditions.
- * Used in making optic decorative things as the tip of the optic fiber contains loads of charges.
- * Quite attractive to the models.



Disadvantages:

- * It is expensive.
- * Materials used & compounds which are used for making these fibers are expensive.

2)

IPv6:

- * It is an acronym of Internet protocol version 6.
- * Structure of IPv6 include 128-bits (16-bytes)

General structure of IPv6:

X : X : X : X : X : X : X : X ~~X : X : X : X~~

eg:

165 : 10 : 0 : 0 : 8 : 10 : 11 : 10

165 : 10 : : 8 : 10 : 11 : 10

It contain Network portion & Host portion.

* It contains 128-bits which are divided in hexadecimal format.

* The number range starts from 0-9
A-F

* Total it contains 128 bits, 16 bytes and 32 hexa bytes.

→ eg: 1. 172:80:10:0:0:55:10:10
it is an IPv6 address



S-2. It gets replaced the zeros by double colon then address becomes

→ 172:80:10::55:10:10.

Zeros are replaced by double colon.

* Advantage:

→ As compared to IPv4 it is more flexible

→ Drawbacks of IPv4 is covered by IPv6.

→ Increased Security

→ It holds more addresses as compared to IPv4, across 2^{128} addresses i.e. (340 undecillion).

→ In further generation of our country is gonna replace IPv4 with IPv6.

⑧ * Disadvantage:

→ More expensive.

→ There might be duplication of addresses

→ No private addresses. all IPv6 addresses are connected globally, i.e. used publically.

6) Multiplexing: →

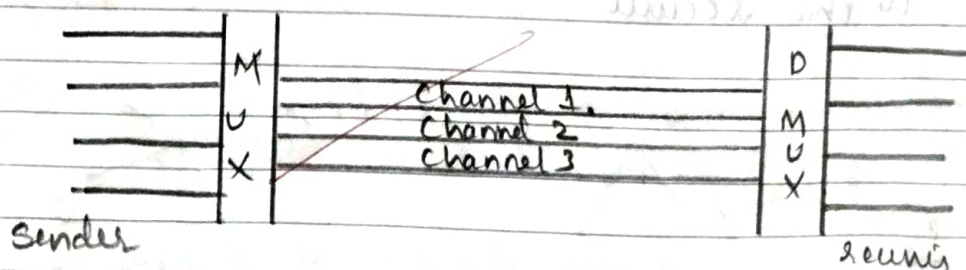
It is the process of combining one or more cables wires into one and transmit the process. or
Combining one or more multiplexers into single lane and conduct the transmission process said to be Multiplexing.

In Multiplexing there are three types.

1. Frequency division multiplexing
2. Time division multiplexing
3. Wavelength division multiplexing.

1. Frequency division Multiplexing: FDM.

- * Frequency of the transmission medium is done in constant phase where there is no crosstalk noise is created while transmission.
- * Each signals are sent through channels where there is no intercrossing of signals occur.
- * Sender sends signals to Mux & by DMux receive signals.



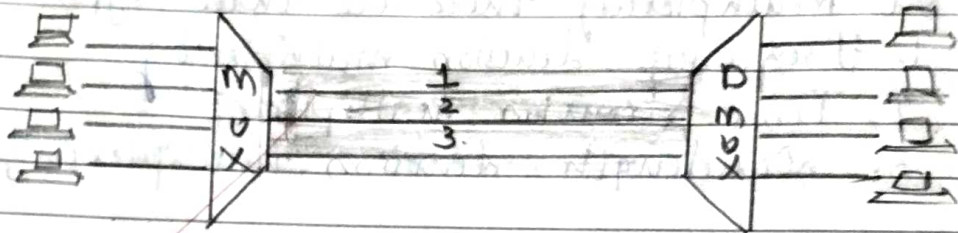
2) Time division Multiplexing: TDM.

- * Time plays a major role, the signals which are sent by sender will be received at accurate time by Receiver.

Sends

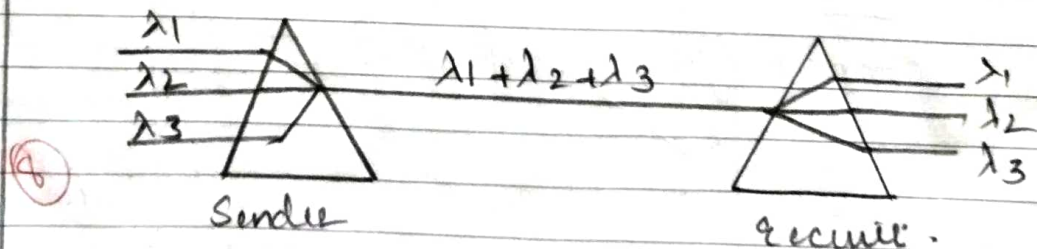
* Mux receives the sender signals and Demux reconverges the sender signals & demultiplexes & receives the equal amount of signals sent by sender.

* number of sender signals and receivers are equal.



3. Wavelength division Multiplexing: WDM.

- The time and frequency plays roles in this division multiplexing.
 - The wavelength of the signal determines how much time it takes to reach to the receiver.
- * All the n wavelengths combine and execute to the receiver.



4. Forward - error correction vs Retransmission

Forward - Error correction	Retransmission
* Due to positive acknowledgment error correction is possible * It is done in TCP. * ARQ is used for forward error correction	* Due to negative acknowledgment Retransmission takes place. * To correct the error done this retransmission is done. * It is done in Transmission control protocol to reduce the error.
* If a protocol is facing any error in then it moves forward to control the error i.e forward error correction. * Retransmission also have the same features as forward error correction	
# Check sums → It is done to check whether the given Id is Accepted or not without any error. → The code is written in ASCII code. → The process is done through XOR gate.	