

## Malaria :-

### Defination:

Malaria is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female *Anopheles* mosquitoes. It is preventable and curable. There were 247 million cases of Malaria in 2021, The African region carries disproportionately high share of Malaria. In 2020 this region was home to 95% Malaria cases & deaths (WHO).

### Symptoms :-

Symptoms of Malaria are similar to flu symptoms. They include Fever and Sweating, chills, Headache and muscle aches, Fatigue, cough, chest pain, Diarrhea, nausea and vomiting.

Symptoms usually appear 10 days to one month after the person was infected. Symptoms can be mild. Some people don't feel sick for up to year after the mosquito bite. Parasites are inactive in human's liver and then are released into bloodstream after years. Symptoms begin when parasites begin circulating.



## Treatment:

It's important to start treating Malaria as soon as possible. Medications are prescribed to kill malaria parasites. Some drugs are given in combination with other drugs.

Antimalarial drugs include:

Artemisinin drugs. These are best treatment for malaria, if available is Artemisinin combination therapy. Then Mefloquine and Quinine can cure malaria.

## Prevention:

The first malaria vaccine to be approved was RTS,S developed by GlaxoSmithKline and approved in 2015 in Europe.

In Africa and Southeast Asia the insecticide-treated bed net are used. In western Kenya the use of bed net reduced mortality among children by 25 percent.

Other preventions include, <sup>taking</sup> antimalarial tablets when travelling to an area, where malaria occurs.





## Typhoid:-

### Defination:

Typhoid is a bacterial infection that can spread throughout the body, affecting many organs. It is caused by a bacterium called *Salmonella typhi*, which is related to bacteria that cause *Salmonella* food poisoning. It infects small intestine and cause high fever and other symptoms. Typhoid fever is also called Enteric Fever.

It is most common in rural areas of developing countries where there is not modern sanitation. South, Southeast Asia, central and South America, Africa and the Caribbean are most affected by Typhoid.

### Symptoms:

Typhoid fever can last for weeks if left untreated. It often gets progressively worse over a few days. Other symptoms include Headache, chills, Loss of appetite, Stomach pain, Rose spots rash or faint pink spots on chest and Stomach, and cough, muscle ache, Nausea vomiting and Diarrhea.



## Treatment:

Typhoid is treated with antibiotics. If person is seriously ill or have complications. he will need to be admitted to hospital.

Most common antibiotics may include:

⇒ Ciprofloxacin, Levofloxacin, Azithromycin and Ceftriaxone. If case is severe, you may be treated with Steroids like Dexamethasone. Fluids and electrolytes may be given by IV (into vein) or patient may be asked to drink water with Electrolyte packets.

Symptoms usually improved in 2 to 4 weeks with treatment. The outcome is likely to be good with early treatment, but becomes poor if complications develop.

## Prevention:

Best way to reduce typhoid is to get vaccinated. Two type of vaccines are used **oral vaccine**: It include four pills taken every other day. As of December 2020, its not longer available from manufacture. **Injectable vaccine**: Its single shot. You need to get it at least two weeks before you arrive in area where it is common.

When traveling, drink only boiled or bottled water and eat well-cooked food. Washing hands before eating and protecting food from contamination are important measures.



# Food Additives names:

Food additives are chemicals added to foods to keep them fresh or to enhance their color, flavour or texture. They may include food colourings, flavour enhancers or preservatives.

## Types

- i- Anti-caking agents: Stop ingredients from becoming lumpy.
- ii- Antioxidants: prevent food from oxidising.
- iii- Artificial Sweeteners: increase the sweetness.
- iv- Emulsifiers: Stop fats from clotting together.
- v- Food acids: maintain the right acid level.
- vi- Colourants: enhance or add colours.
- vii Humectants: keep food moist.
- viii- Foaming agents: maintain uniform aeration of gases in food.
- ix Glazing agents: improve appearance and can protect food.
- x- Preservatives: Stop microbes from multiplying.



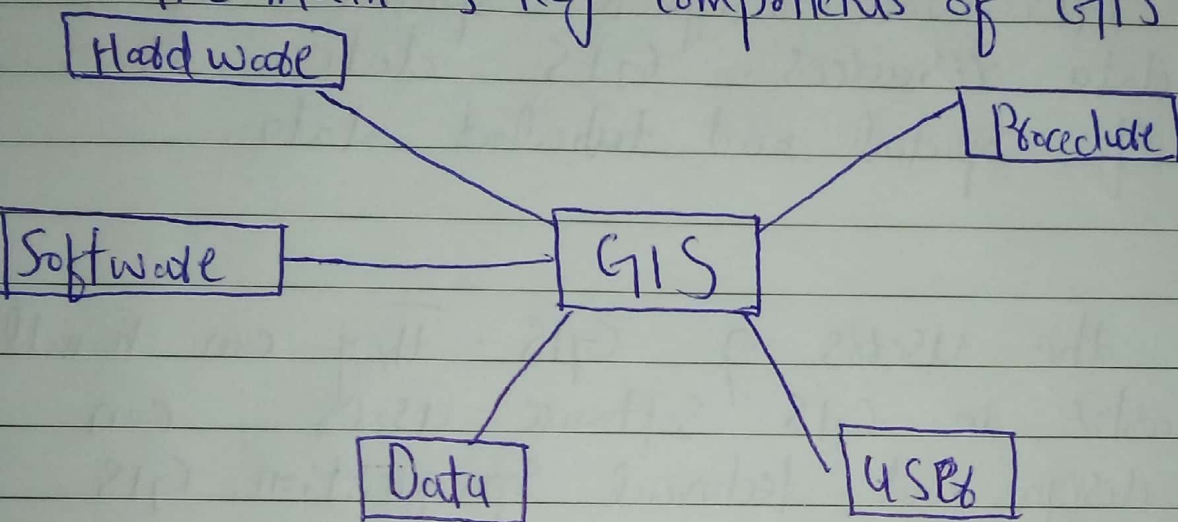


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and Spoiling the food.

## Components of Geographic Information System (GIS)

The main & key components of GIS are:



### Hardware:

Hardware is the computer system on which a GIS software operates. They attached it to a disk drive storage unit, used for storing data and runs a program.

Its components are Motherboard, Processor, RAM, Hard Disk, Graphics, Monitor, Printer.

### Software:

GIS Software is a major function of research, analysis, and display geographic information. GIS tools help to query, edit, run and display GIS data.

Some GIS Softwares are ArcGIS, QGIS, SAGGIS





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The components of Software GIS tools, DBMS GUI, Layout.

## Data:

The most important component of GIS is the data. A GIS will integrate spatial data with other data resources. GIS data is a combination of spatial and tabular data.

## Users:

People use the users of GIS. They can handle all the tasks in GIS software. Users can maintain to design and technical specification. GIS user is called GIS analyst or Engineer.

## Procedure:

Procedure is more related to the management aspect of GIS. It is referred to lines of reporting, control points and other mechanism for ensuring the high quality of GIS. The procedure used to input, analyze and query data determine the quality and validity of final product.