

these steps to improve his symptoms.

- 1 Getting plenty of rest.
- 2 By using heat packs to help muscle aches.
- 3 Doing physical therapy.

The best way to prevent polio is to get vaccinated. Vaccination

is usually done in childhood. If the children do not get vaccinated in childhood then they will permanently receive polio due to the effect on their nervous system.

Symptoms of Polio.

Almost 70% people infected with poliovirus don't have symptoms. Well, some of the common symptoms are given below:

- a) Fatigue
- b) Headache
- c) Anxiety
- d) Sensitivity to light.
- e) Vomiting

Causes:

Polio can be cause by.

- 1 Drinking contaminated water or getting it into mouth.
- 2 Being in close contact with someone effected with Polio.
- 3 Eating food that has been touched with contaminated water.

Treatment.

There is no specific medication to treat polio. If any one have paralytic polio, then physical therapy will conduct. Moreover one can follow

(ii)

connected with +ve terminal, current flows.

ii Reverse biasing

It is the reverse of forward biasing. Means, when P-type is connected with -ve terminal and n-type is connected with positive (+ve) terminal, there is no recombination of majority carriers, thus no conduction occurs.

d) Write a note on Polio

Polio is a disease caused by a virus that attacks the nervous system. The virus which causes this disease is called poliovirus. It causes muscle weakness resulting in an inability to move or paralysis.

Types of Polio.

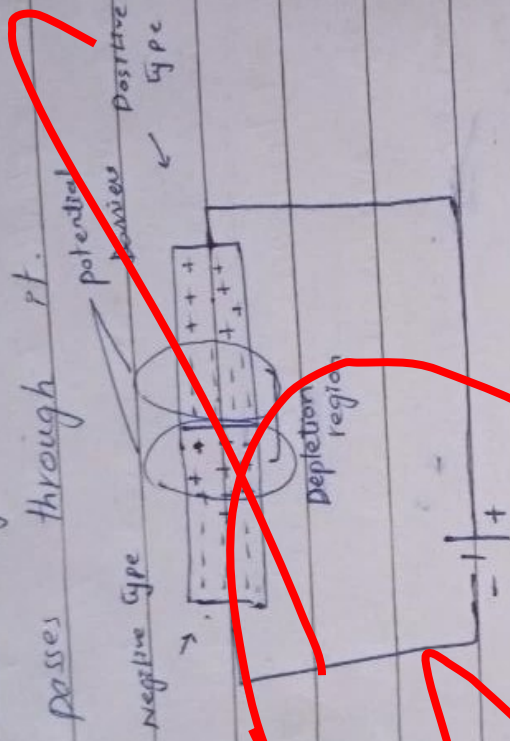
There are three types of Polio.

- 1 Subclinical
- 2 Non-paralytic
- 3 Paralytic

(10)

b. Explain LED

LED stands for Light emitting diode. It is a semiconductor device, which emits light when an electric current passes through it.



To break the potential barrier, we

placed a battery with that material.

Positive charges repels each other and

same like negative charges do. Potential

barriers will break due to the repulsion

so that energy produced.

Types of flow of current.

- 1 Forward biasing
- 2 Reverse biasing

1 Forward biasing

When N-type is connected with -ve terminal and P-type is

Q # 5

a- Write uses of any five electromagnetic radiations.

There are 7 types of electromagnetic radiation. Five (5) of them with their uses are given below.

1- Microwave

Microwaves are used for heating as in microwaves oven and for data transmission.

2 Radio wave

Radio waves are used for communication.

3 X-rays

X-rays are used in medical instruments to view the bone structure of body.

4 Visible light

Visible light helps us to see everything around us.

5 Gamma rays.

Gamma rays are used in nuclear industry as well as in medicine.

⑧

glucose back into the blood.

ii Loop of Henle.

This absorbs potassium, chloride and sodium into the blood.

iii Distal convoluted tubule. (DCT)

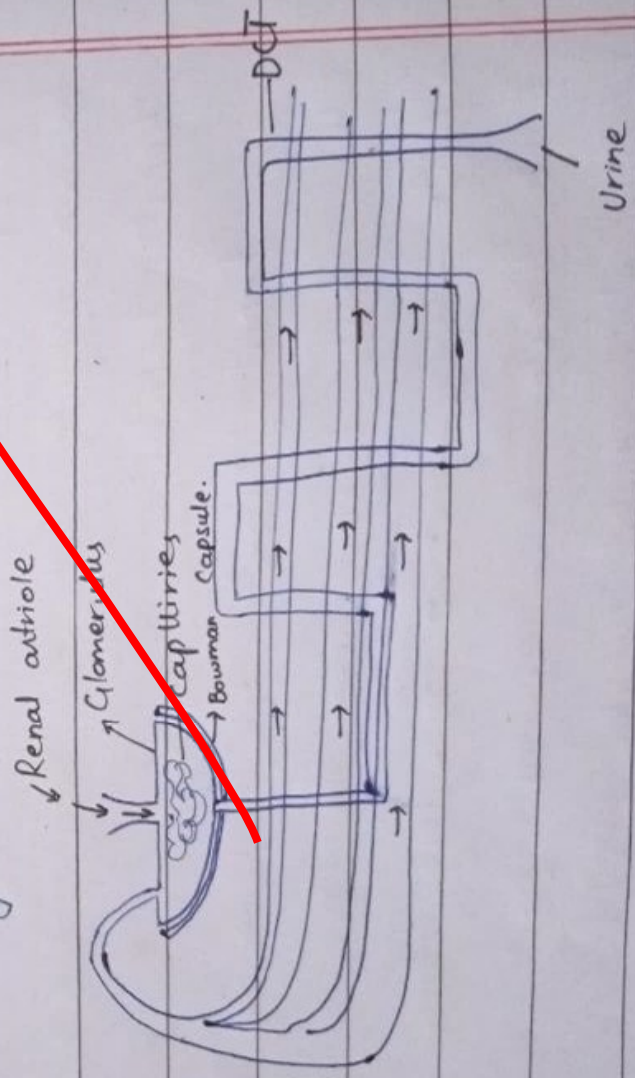
This section absorbs more sodium into the blood and takes in potassium and acid.

Collecting Ducts

There are collecting Duct at the end of each nephrone. This is the section where filtered fluid exit the nephrone.

Renal veins.

This carries filtered blood from the kidney back to the heart.



Renal Artery:

It carries blood toward the kidney from the heart for filtration.

Nephrons.

Nephrons are the basic structural and functional unit of kidney. Each kidney has about 1 million nephrons.

Glomerulus.

When blood enters in the nephrons through renal artery, it reaches to the cup like structure called glomerulus. In glomerulus filtration of blood takes place.

The Bowman capsule.

After that it passes through the Bowman capsule into the renal tubules.

Renal tubules.

Renal tubules are a series of tubes that begin after the Bowman capsule and end at collecting ducts. Each tubule has several parts.

1. Proximal convoluted tubules. (PCT)

This absorbs water, sodium and

6) d) Explain working of kidney in human physiology.

Kidney:

Kidneys are bean shaped organs in the renal system. Kidneys help to filter blood before sending it back to the heart. In humans a pair of kidney is present in the abdominal region of the body.

Functions:

Kidney perform the following function.

- i) It helps in maintaining overall fluid balance.
- ii) It regulates and filter minerals from the blood.
- iii) It filters waste materials from food, medication and other substances.

Structure:

- 1 Renal artery & collecting ducts
- 2 Nephrons
- 3 Renal vein
- 4 Renal tubules

phenomenon of the reflection.

② Buffer coating:

It is the plastic coating. It is made up of silicon rubber.

Function. It protects the fiber.

Characteristics of Optical Fiber.

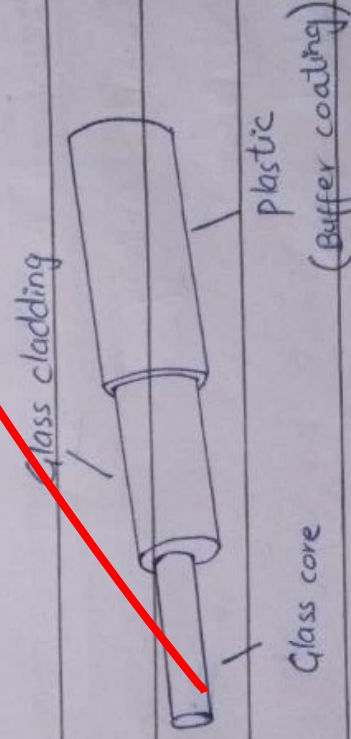
i Fiber optic cable is not affected by EMI effects and can be used in areas where high voltages are passing by.

ii The numbers of nodes which a fiber optic can support does not depend on its length but on the hub.

iii The installation of fiber optic cable is difficult.

iv The cost of fiber optics cable is more compared to twisted pair and co-axial.

Diagram:



b- Write a note on Optical Fibers.

Definition:

Optical Fibers consist of thin glass fibers or plastic or any dielectric medium which can carry light signals from one end to another.

Structure of Optical Fibers

It has three parts.

i Core

ii Cladding

iii Buffer coating

① Core

It is central tube. It is of skinny size and made up of optically transparent dielectric medium. It carries

Function: It carries light from the transmitter to the receiver.

② Cladding

It is outer optical material surrounding the core. Its reflective index is lower than the core.

Function: It helps to keep the light within the core as it uses the

③

iv- Byte & Nibble

Nibble

① A Byte contains 8 bits
A Nibble is a group of 4 bits.

② It can represent exactly 256 unique values ranging from 000000 to 111111.
It can represent exactly 16 unique values, ranging from 0000 through 1111.

v- Natural and Artificial Satellite

Natural Satellite

① Natural Satellites are natural objects those satellites which orbits the earth and other planets.
② Natural satellites can not communicate on earth or with other planets.

③ Most well known natural satellite is the moon of Earth.

④ It is made up of natural material like rocks, mineral, water and dust etc.

Artificial Satellite

Artificial satellite are man made objects which revolve around earth.

These satellites can communicate with instruments on Earth.

The first artificial satellite was Sputnik.

These are made up of metal and electronic material.

②

Physically that can be utilized as personal computer as well as share information.

- * It require fewer hardware devices.
- * It can only cover a certain amount of distance.

Internet

- * The internet on the other hand, is the interconnection of a few networks.
- * It requires various hardware devices.
- * The internet is accessible from anywhere in the world.

iii GPS & GIS

GPS

- GPS stands for Global Positioning System
- GPS is used to find exact location of things on the earth.
- GPS is a common technology used for navigation.

GIS

- GIS stands for Global Information System.
- GIS is used to get information from the map.
- GIS is a system that provides analysis and information on geographical data

Part - II
(SECTION - A)

Q. NO. 2

a) Distinguish the following terms:

i- RAM & ROM
RAM

RAM stands for "random access"

memory". RAM is a volatile memory. It

means that it stores data temporarily

and you will lose the data when

computer is turned off.

ROM

ROM stands for "read only memory."

ROM is non-volatile memory so it

can save data permanently. It means

that data will not be lost when the

computer is switched off.

ii- Network and Internet
Network.

* Network is a collection of
computer and devices which are connected

This is not the format of a paper
4 sides for 5 marks and then 1 side for same 5
marks
Keep length equal for all answers
Also attempt math portion
Paper presentation is fine