

Question No 4

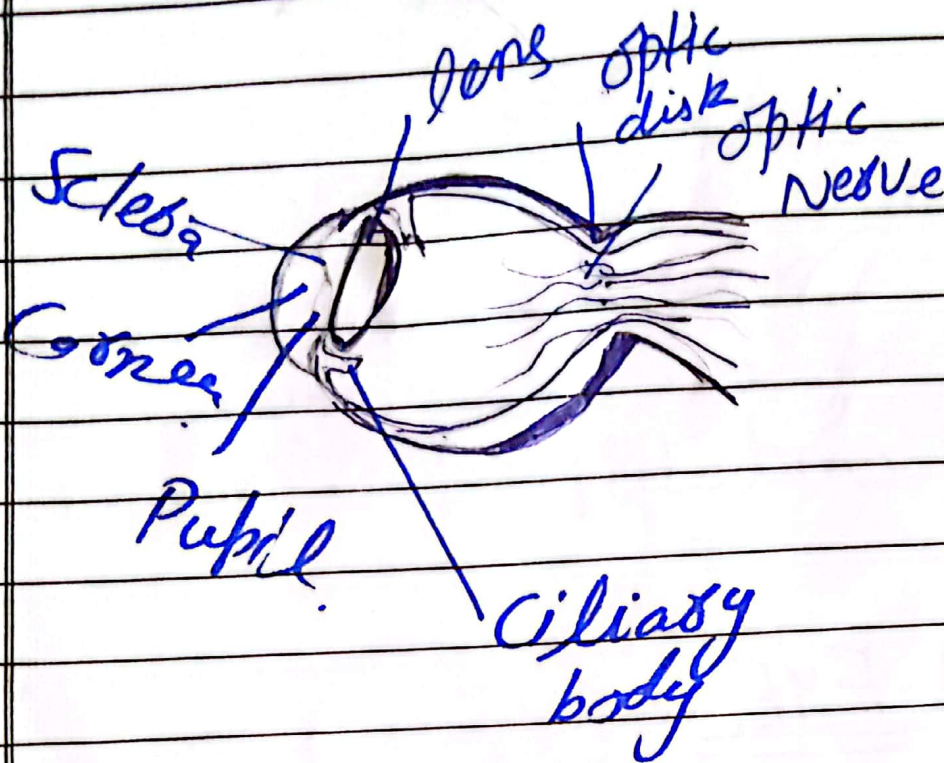
Part a

Draw the structure of eye. How myopia and hyperopia?

1 EYE

Eye is a human organ. Which consist of different structure like cornea, lens, ciliary body, optic disk, optic nerve. It acts as camera. Light enters into the eye and cornea transfer into optic nerve and shows image in front of eye.

2 Ref. Structure of Eye



3 Refractive Error

3.1 - Hypermetropia

it is a type of Refractive error in which parallel rays of light focus behind the retina

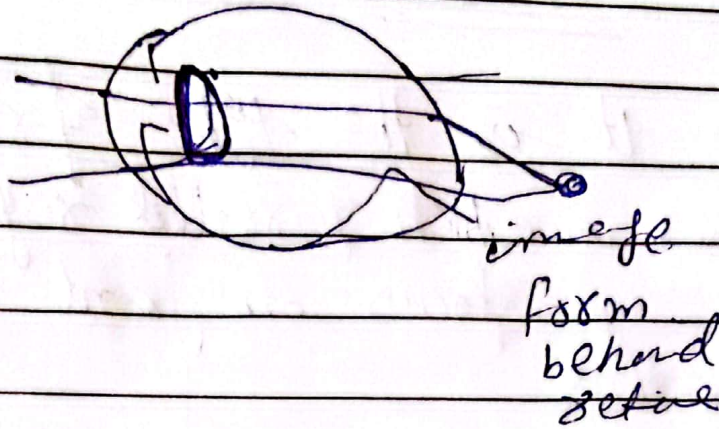
3.2 Symptom

3.2.1 - Headache

3.2.2 Near Vision Problem

3.2.3 Convergent Squint

3.2.4 Asthenopic Symptoms.



3.4 Treatment

3.4.1 No-Surgical

3.4.2 if the patient is patient is 6-7 years so it is due to some physiological reason. it is correct itself.

3.4.2 in adult age give full correction of **Convex lens** (plus lens)

3.5 Surgical Treatment

3.5.1 - Lasik

3.5.2 Photorefractive surgery (PRK)

3.6 Myopia

It is the type of refractive error in which parallel rays of eye focus in front of retina

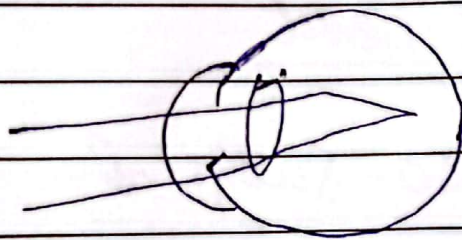


image
form in
front of
retina

3.7 Symptom

3.7.1 Distant vision blur

3.2.1 Squint

3.2.2 Eyeball larger

3.8 Treatment

Non-surgical

- (1) concave mirror (minus lens)
- (2) Spectacles.
- (3) in children give full correction. But adult number is reduce (10 to 20).

Surgical

- (1) Laser.
- (2) Lasik
- (3) PRK
- (4) Radial Keratotomy.

part c

What are galaxy? Give its types? Are galaxies moving or at rest? Justify with evidence?

1-Galaxy

1.1 Definition

Galaxy is a gravitational bound system, which contain stars, planets, dwarf planets, black hole in it. There are hundreds or thousands of galaxies in our universe.

1.2 Example

~~Androm~~ Milkyway.

2. Types of Galaxies

in 1924 Hubble classified galaxies in three types.

2.1 - Elliptical.

2.2 - Spiral.

2.3 - Irregular.

2.4 - Lenticular.

2.1 Elliptical Galaxy

It is most abundant galaxy in universe due to its unique features dim light and contains million of new stars in it. It is elliptical or round shape. It also like swirling arms like its sister galaxy.

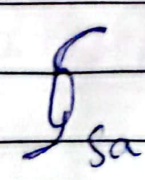
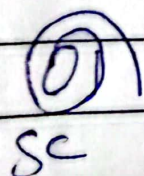
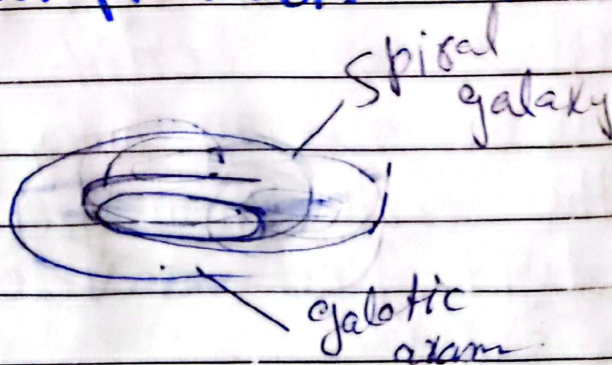
2.3 Lenticular Galaxy

It is intermitten. It contains properties of both

Elliptical and spiral galaxy.
 2.3. Spiral galaxy

it is spiral in shape.
 it is brightest galaxies on the universe because stars form take place in it. it contains number of stars and dust or gas particles. About 20 percent galaxies are spiral. it is depends on it. ~~it~~ S_a is a tightly wound and has large nucleus. S_c form a loose bound with arm and contain small nucleus. S_b have intermittem nucleus.

Example M49, M59



4- Irregular galaxy

Irregular galaxy is due to its irregular shape. It is no proper shape. It is discovered recently. It contains millions of stars in irregular pattern. It is brightest galaxy.

5- Are galaxies moveable.

Yes galaxies are moveable and they are around each other. When they are moving towards the earth it shows short light shift **Blue wavelength**.

When moving away from the earth shows great light **Red wavelength shift**.

Part b

Question

Discuss different units in human cell?

1- Cell

Cell is a structure and function unit of life. Body is made of cells. It is derived from Greek word 'cellula' which means "little room". The cell is formed from pre-existing cells.

1.1 Example

⇒ Red Blood cells

2- Tissue

Tissue is made up of similar cells and perform a relatively common function.

2.1 Example

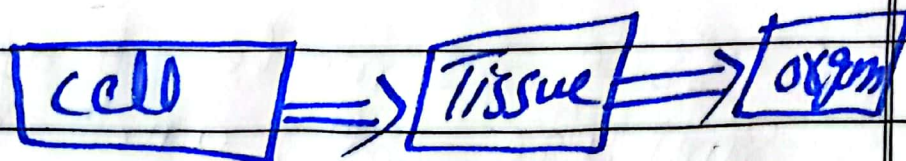
- (1) Muscle.
- (2) Connective tissues

3 Organs

Different tissue are combine to form a organ of body. it perform different functions in body.

Example

- (1) Kidney
- (2) Liver
- (3) Heart



The cell combine and form tissue and tissue

Combine to form organ
to perform different
functions of their body -

Question Nos

Q 5 Part (b)

Differentiate Ionic and
Covalent bond?

Ionic Bond

it is form by transfer of
one or two atom to form
a molecule. it contain negative
or positive charges. Because
the opposite charges are
attract each other. when
it transfer one molecule
they contain either positive

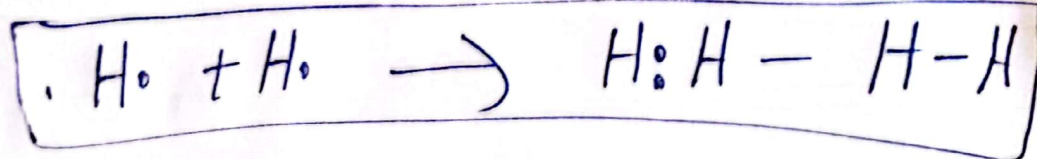
or negative charge.

Example



2-Covalent Bond

Covalent Bond it transfer one or two electron when it form a noble gas.



Past C

Give uses of Gamma rays, Radio, X-rays?

Radio-rays

- (1) Frequency 30GHz
- (2) wavelength less than 1cm

(3) its exposure is not harmful

uses

Radio waves are used in communications voice and media.

(2) X-rays

- (1) Frequency 30 EHz
- (2) wavelength $0.01 \text{ to } 10 \text{ nm}$
- (3) it produce when fast waves hit the metal.
- (4) it is harmful and causes cell-mutations, cell destruction.

uses

- (1) Mammography
- (2) Dental therapy
- (3) cancer deduction.
- (4) Radiotherapy
- (5) Heart.

(3) Gamma-rays

- (1) Gamma rays are produced due to its nuclearity.
- (2) Frequency 10^{17} Hz
- (3) Wavelength less than 0.01

Uses

(1) Gamma rays are used in nuclear industry.

(2) It is also used as disinfectant.

It has some side effects. It causes cell-mutation, cell destruction, and even cancer.

Part (b)

Define Tidal waves? Note on L.F.D?

Tidal wave

Definition

Tidal wave is a oceanic wave it is form due to gravitation effect of sun and moon rise the body bodies are called Tidal waves. it effect the structure near the beach or ocean.

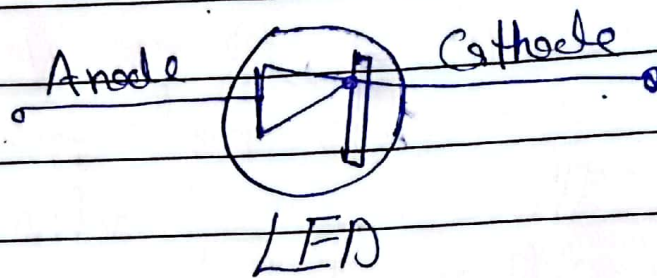
Formation

The Tidal wave is slowly effected by weather and gravitation pull of sun and moon.

Note on LED.

its a light Emitting diode. it is a semiconductor device. Emmits light when

electric current pass through it. it is used to produced light or display information.



uses

it is used to produce light display information when electric current pass through it.

Section B

Q6

Part

$$R = 8\text{cm}$$

$$V_{\text{Highest}} = 15 \text{ cm}$$

$$V = ?$$

Formula

$$\pi = 3.148$$

$$V = \pi r^2 h$$

Solution

$$V = \pi r^2 h$$

$$V = (3.14)(8)(15)$$

$$V = (3.14)(84)(15)$$

$$V = 3084.4$$

Result

$$V = 3084 \text{ cm}$$