

Is it mandatory to write  
Introduction and conclusion  
in every question?

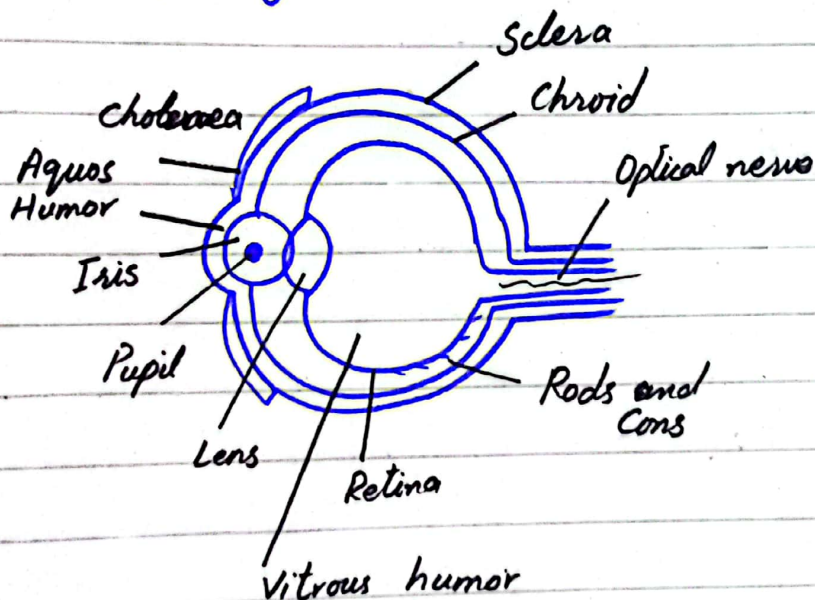
Nageen Abid

Q3 (a)

Introduction:

Eye is a sensory organ, which consists of several parts and after creating image in retina it further goes back to mind for recognition.

Parts of Eye:



Chornea:

This is the first most part of the eye which interact with the eye. After interacting this light moves to next parts of the eye.

## **Iris:**

This give support to the movement of eye and also attracts the same color of light

## **Aqueous Humor:**

It is fluid like material, and it contains the gases and nutrients and transfers it to other parts of eye.

## **Pupil:**

It is smallest part in the eye and it is the place where light enters in the eye

## **Lens:**

When light enter through pupil it reflects with the lens and goes further beyond eye

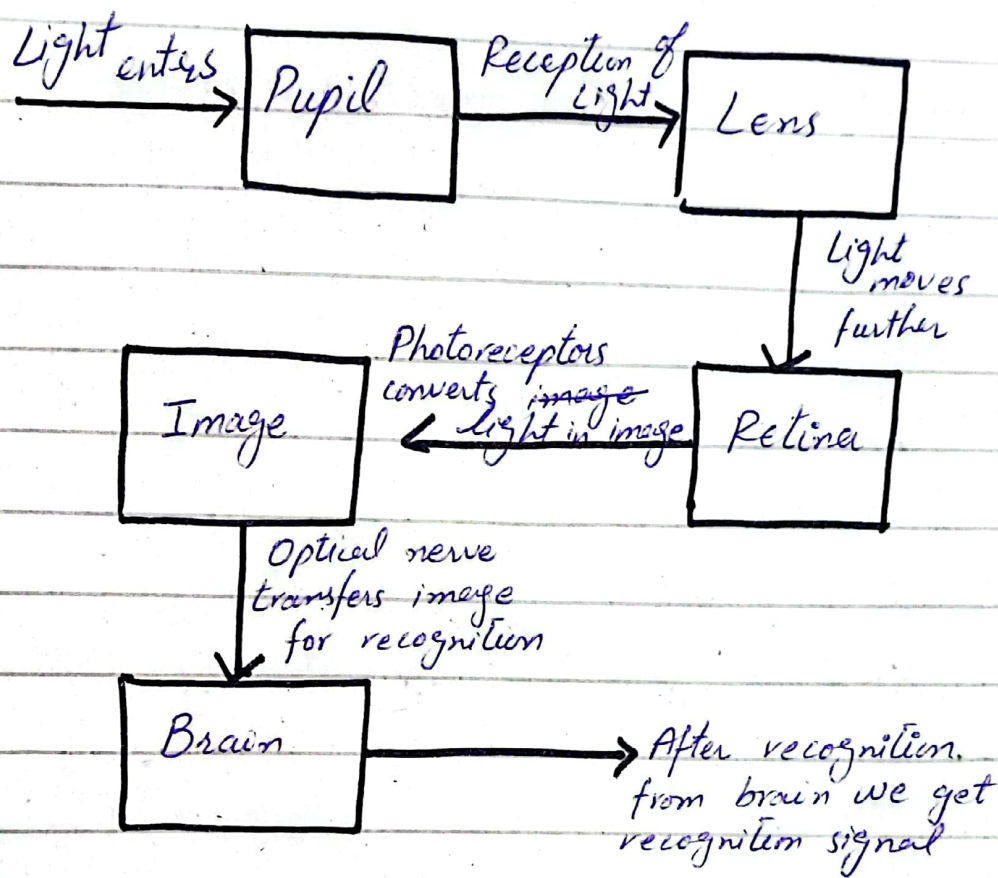
## **Retina:**

This light hits the retina and creates the image here.

## **Cons and rods / Optic nerve:**

This optic nerve collect and transmits the image in the brain for recognition

## How image is recognized and how we see:



### Vitreous Humor:

It is a fluid fill region, provides support, and shape of eye.

### Conclusion:

#### Correction of <sup>short</sup> far-sightedness:

When reception of image from reti lens goes backward to retina, but the point of focus is above the retina, light

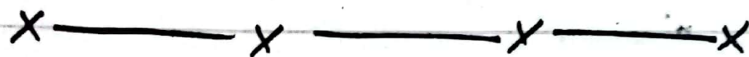
overfocused from distant objects.

It can be corrected by wearing glasses of concave lens.

### Correction of far sightedness:

When the refraction of light does not fall on retina, because the point of focus is behind the retina. This farsightedness occurs.

It can be corrected by the glasses of convex lens.



Q.3(b):

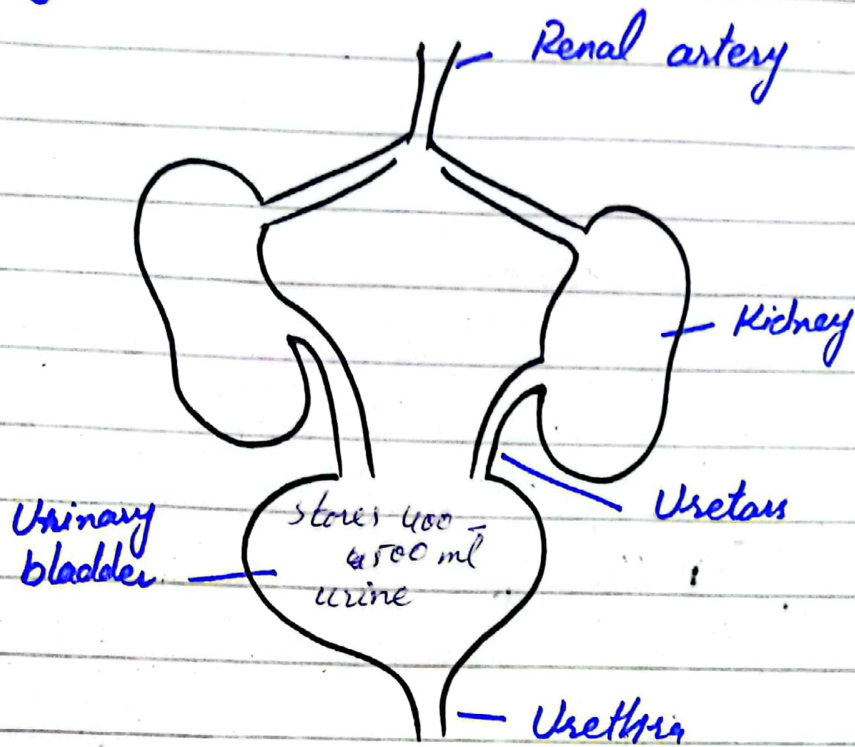
### Introduction:

Kidney is the necessary organ of the body which separates and removes the waste from the blood and provide clean blood to transfer in the whole body.

### Working of the kidney:

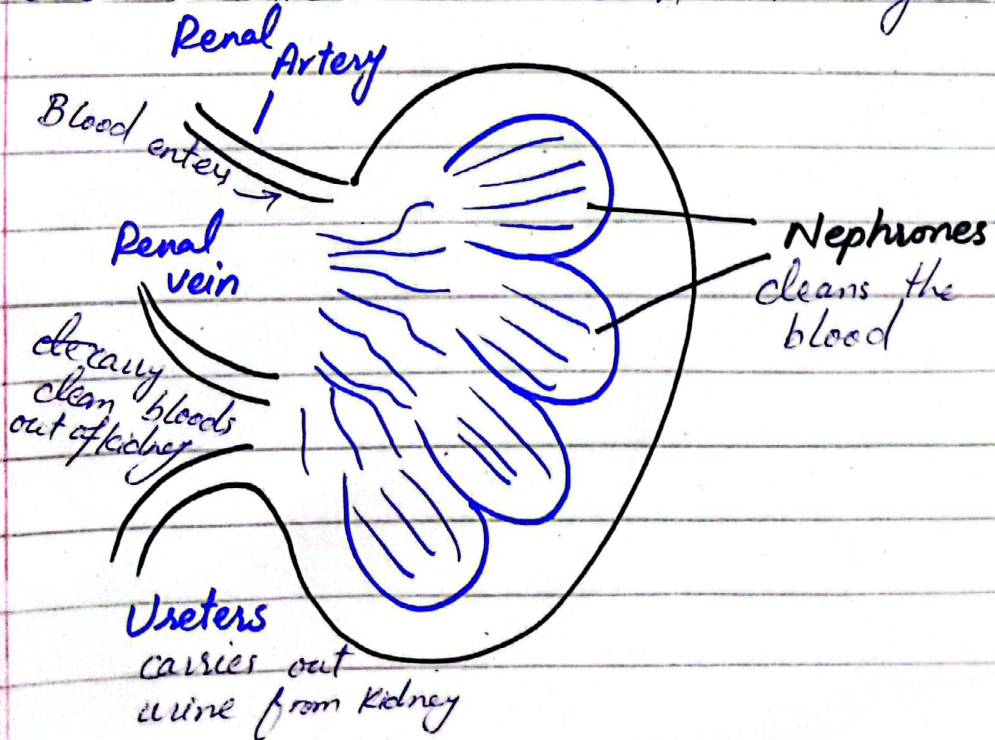
In first step the blood enters into the kidney through renal artery.

## Diagram:



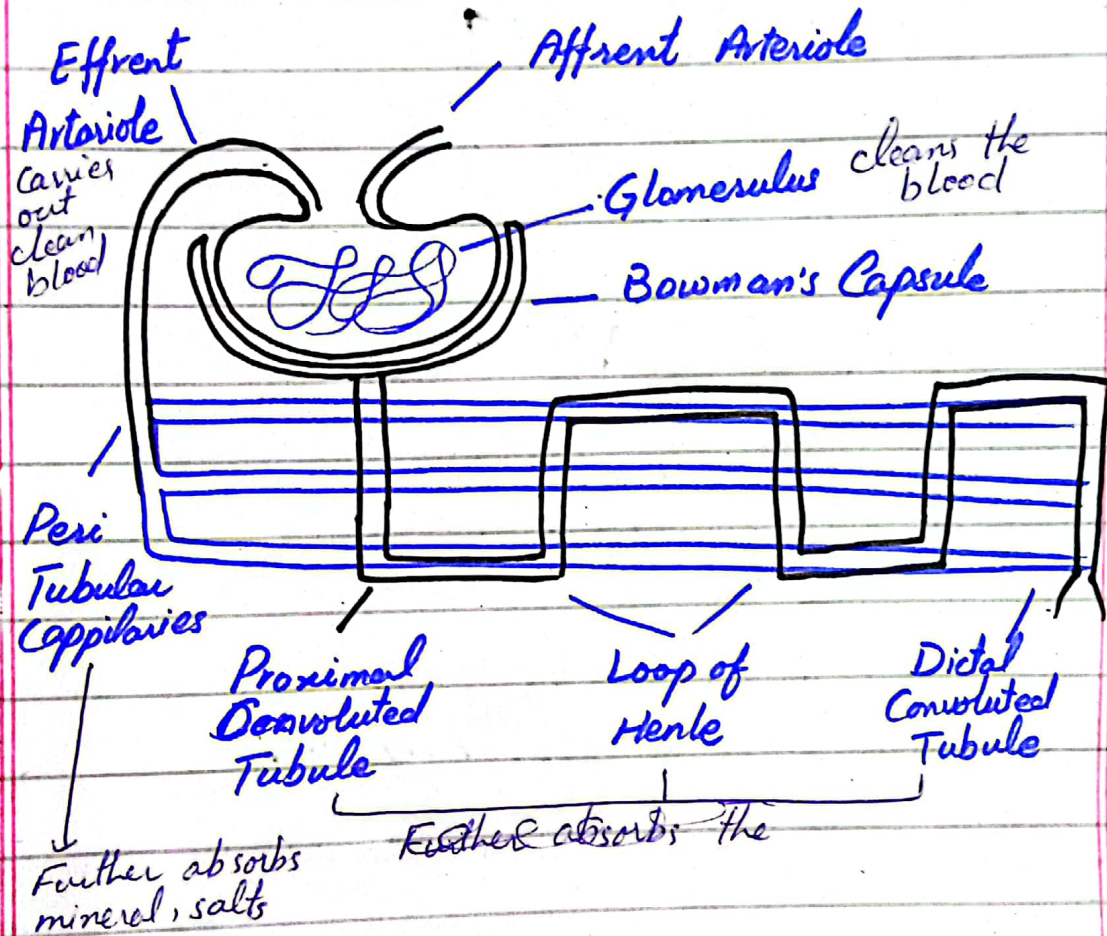
## Blood enters in kidney:

Through the renal artery blood enters into the kidney. The kidney contains the **Nephrons**. There are 2 Million in both kidneys.



The blood enters into Nephrones and nephrones have major function of cleaning the blood.

## Working of nephrones To clean the blood:



## Blood enters through Affrent arteriole

Inside the nephrone, blood enters through affrent arteriole to Glomerulus.

## Glomerulus

It contains the bunch of

cappilaries, which cleans the blood  
Clean blood out of Effrent arteriole.

When glomerulus cleans the  
the blood, it goes out through  
effrent arteriole and waste  
moves out through Proximal  
convoluted tubule, Loop of henle  
and dictal convoluted tubule.

### Reabsorption of minerals by peri tubular cappilaries

Peri-tubular caplaries  
interacts with the PCT, DCT and  
loop of henle. Here Calcium and  
salt is reapsorbed. The waste  
moves out of kidney through  
uneters and clean blood  
moves out of kidney through  
renal vein.

X ————— X ————— X ————— X

How many pages are required in  
attempting 1 part of GSA question?

Q5 (b):

Introduction:

Artificial Intelligence is the old concept since the 1950s. But in 21st century, more progress on it leads into revolution. It is being used in the many fields and making the lives of human-easier.

The revolution in the world th by Artificial intelligence:

It is being used in education, transportation, research work, medical field etc. With its algorithms, the things which were impossible and time taking, these have become much more easier.

AI in research work:

In research work the concept of Open AI has helped the people. The tools such as Chatgpt and Google Bard are helping the people in understanding



the concepts, gathering data in a record from a lot of research journal which was ~~info~~ much difficult before. It is helping the students as well in their education to understand topic through various dimensions.

### Application of AI in Medical:

In medical field, robots have built to diagnose the disease. It was difficult for doctors sometimes to diagnose and required the experience. But after feeding algorithms and data, right after few minutes, these robots diagnose the ~~pr~~ diseases. Furthermore the cure of various diseases have been found.

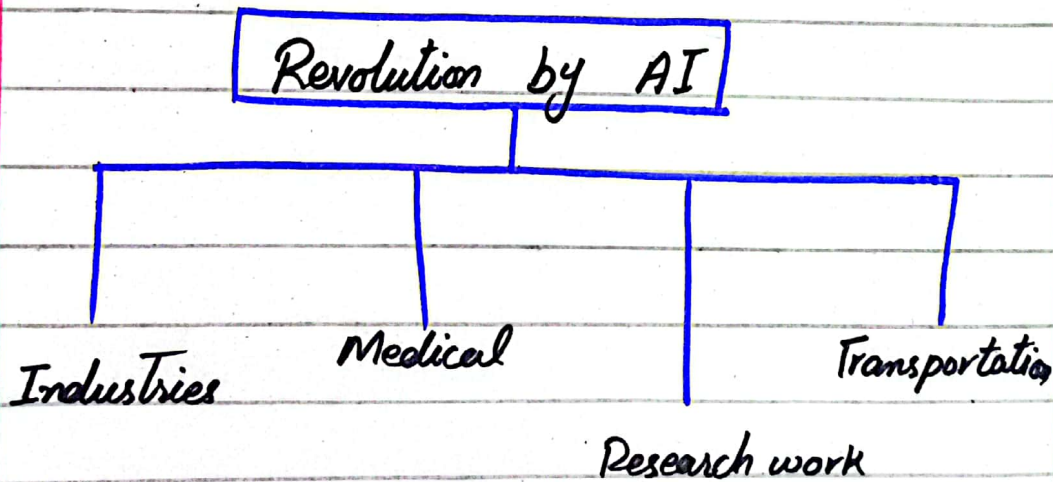
### Use of AI in industries:

In industries, AI robots are doing the repetitive task which were tiresome for humans. Such as packaging, boxing and

manufacturing.

## AI powered transportation system:

AI is being used in making self driving cars. The sensors and camera identify and coming object and moves the car accordingly. Furthermore, in signals, AI is used to monitor the flow of traffic and works accordingly to manage. It has decreased the rate of accidents.



## Conclusion:

The AI-powered tools are increasing day by day and people are using in their fields to get maximum and advance output.

X ——— X ——— X

## Section II

Q 6 (b):

~~Mean of 5~~

Value of  $X = ?$

Mean of numbers = Numbers

$$50 = 10, 30, Y, 50$$

Formula of Mean:

~~Sum of~~

$$\text{Mean} = \frac{\text{Sum of numbers}}{\text{Total numbers}}$$

$$50 = \frac{10 + 30 + Y + 50}{4}$$

$$4 \times 50 = 90 + Y$$

$$Y + 90 = 200$$

$$Y = 200 - 90$$

$$Y = 110$$

The value of  $Y$  is 110.

X ————— X ————— X

Q6(c):

Missing term:

2, 6, 18, 54, \_\_\_\_\_ ?

Every number is multiplied with the 3 in sequence. So, the  $54 \times 3$ , the next number is 162.

2, 6, 18, 54, 162

X ————— X

Q6(d):

Let the number 1 = x

Let the number 2 = y

Product of 2 numbers = 320

$$x \times y = 320$$

And,

Ratio of 2 number = 1:5

6 parts = 320

1 parts =  $320 \div 6 = 53$

Value of x = 53

Value of y =  $53 \times 5 = 265$

Difference between 2 numbers.

$$\begin{aligned} &= x - y \\ &= 53 - 265 \\ &= -212 \end{aligned}$$

Hence, the difference between two numbers  $x$  and  $y$  is  $-212$ .

x ————— x ————— x

Q7(a)

2 scooties sold = <sup>Rs</sup> 96000 each

The price of 1 scooty = Rs 96000

profit she gained = 20%

Profits in Rs =  $\frac{20}{100} (96000)$

= 19200 Rs

Price of 2nd scooty = Rs 96000

Loss on sale = 20%

Loss in Rupees = 19200

Gain and loss percentage:

A problem in attempting math  
portion question. presentation!  
Need guidance

As, her gain is 20% and  
loss is also 20%. So,  
she did not get any profit  
or loss in sale of both scooters

Q7(b):

195 men work 10 hours finish job in 20 days  
How many men will finish job in 15 days  
and 13 hours a day?  
Let no. of men =  $x$

Hours	Days	Men
10 ↓	20 ↓	195 ↑
13 ↓	15 ↓	$x$ ↑

Inverse proportion in hours, as more  
hours and less men required

Similarly,

Inverse proportion in days, as  
days have decreased, more  
men are required.

$$\frac{x}{195} = \frac{20}{15} \times \frac{10}{13}$$

$$\frac{x}{195} = \frac{40}{39}$$

$$x = \frac{40}{39} \times 195$$

$$x = 200 \text{ men}$$

Hence, 200 men are required  
to complete a task in 15 days  
and 13 working hours each day.

X ————— X

Q 7(c)

$$A = \{a, e, i, o, u\}$$

$$U = \{a, b, c, \dots, z\}$$

$$A' = ?$$

The complement of  $A = A' = U - A$

Hence

$$U - A = \{a, b, c, \dots, z\} - \{a, e, i, o, u\}$$

$$A' = U - A = \{b, c, d, f, g, h, j, k, l, m, n, p, q, r, s, t, v, w, x, y, z\}$$

Ans.

X ————— X ————— X

Q8(b):

No. of slices of Pizza = 8

slices contain raisin = 3

Shiza picks 1 slice, probability of picking  
slice with raisin

Formula of probability:

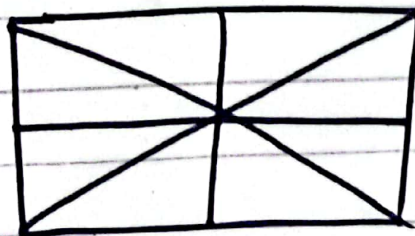
$$P(\text{Raisin slice}) = \frac{\text{Possibilities}}{\text{Total number of outcomes}}$$

$$P(\text{Raisin slice}) = \frac{3}{8}$$



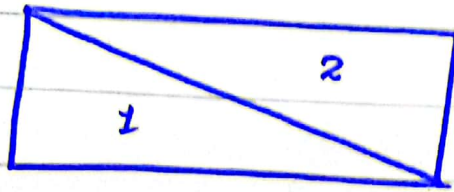
Q8(c):

Find no. of triangles = ?

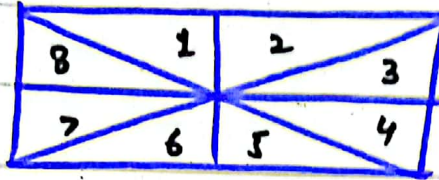


As, on broader frame 2 large  
Triangles.

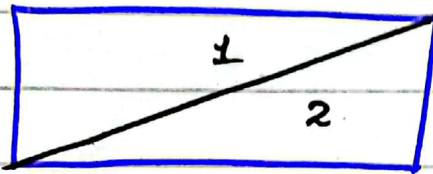




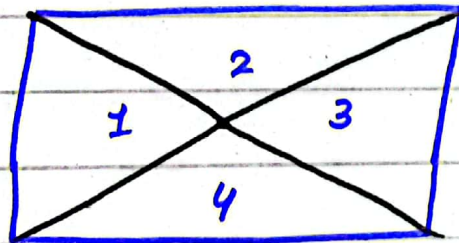
2 triangles.



Here are 8 mini-triangles



2 more triangles



4 eq. triangles

Hence, the total number of triangles are = 16. Ans

X ————— X