

Date: _____

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Name

Saniya

Paper

(GK) General Science & Ability.

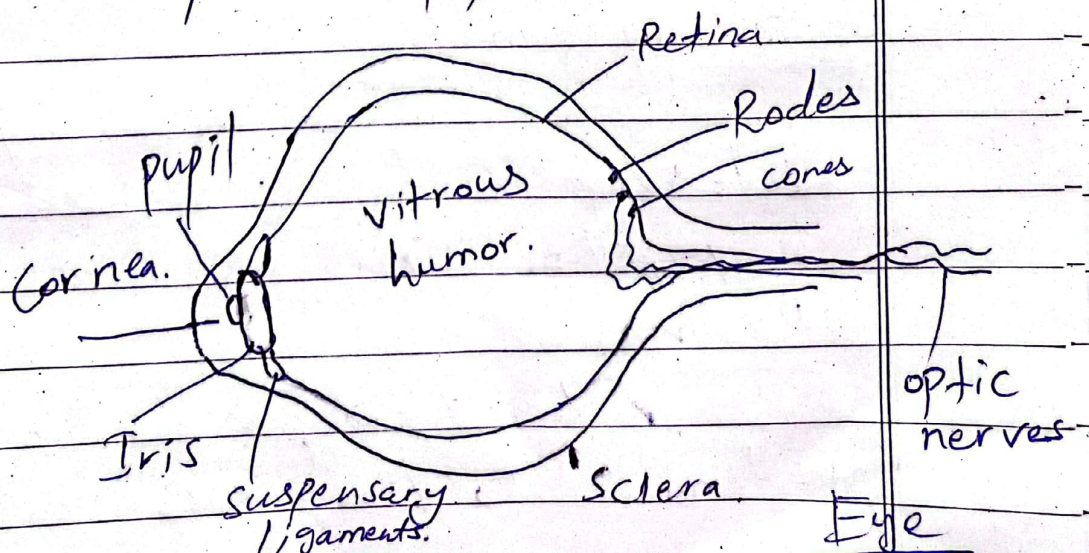
Q No 4:

(PART II)

(a)

The Structure of Eye

The structure of eye consist of following parts i.e, Sclera, Cornea, Iris, pupil, ^{suspensory} Ciliary ligament, Vitrous humor, Retina, Cones & Rods, & optic nerve.



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Sclera, The whitish part of eye is sclera & lacrimal glands above it produce tears which protect eye from infections or any other debris. ∴ ∴ ∴

Cornea, ^{It is} Dome shaped present in front of Iris & pupil & allows light to enter.

Pupil: A hole present in the center of Iris. Its shape is determined by the amount of light.

Iris: Iris is the colored part of eye. It is different in many people for instance, some people have brown Iris or some black, green, blue etc.

Suspensory ligaments,

These are ciliary muscles & control the size of pupil or Iris.

Retina,

Light reflects in retina & retinal has cells

which are sensitive to color vision or night vision. These cells are 'rods' & 'cones'. Their disability leads to night blindness & color blindness.

Vitreous humor:

It controls light & is a liquid part.
optic nerves:

These are nerves arise from retina & make brings signals to the brain & then brain makes image.

Myopia (Near sightedness)

In this disease a person can see near objects but can't see the distant objects. It is corrected by concave lense.

Hyperopia (Far sightedness)

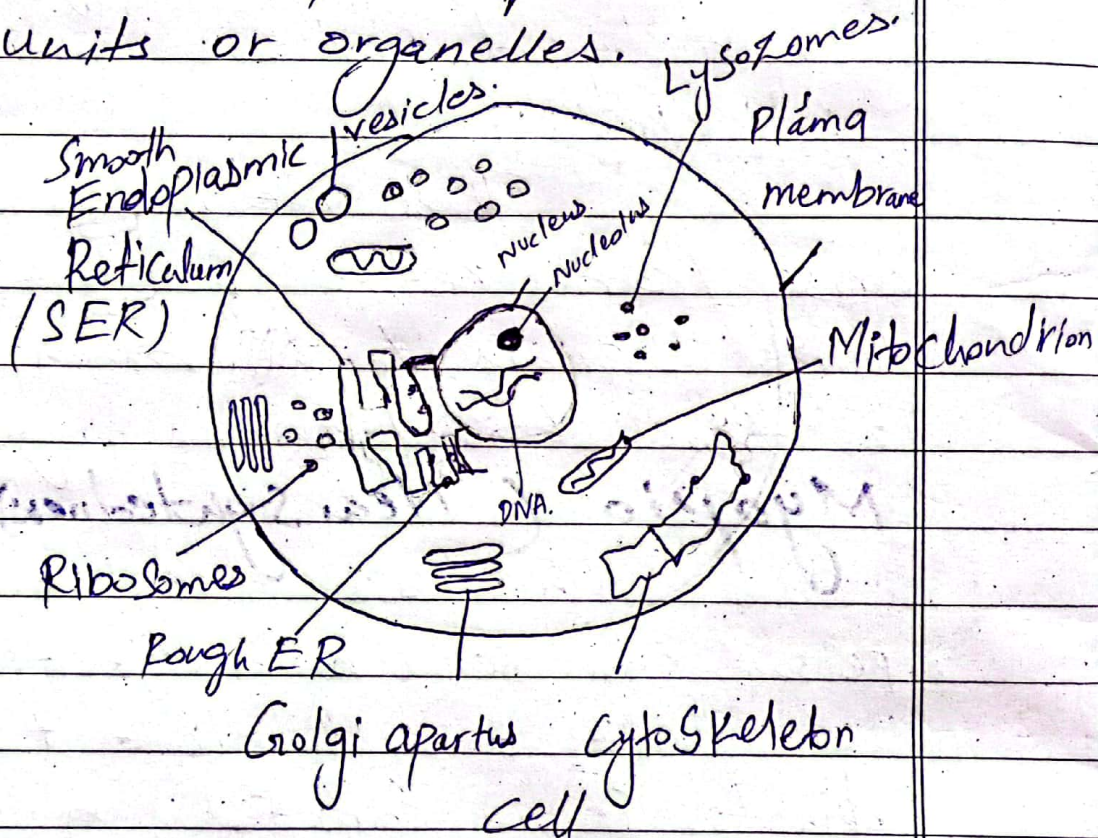
In this disease a person can see the distant objects more clearly than the near objects. It can

corrected by convex lense.

(b)

Units in cell

cell is the structural & functional unit of human. It is composed of various units or organelles.



Plasma membrane, It allows the ^{Movement} passage of molecules across its membrane. It selects molecules by its receptors & resist invaders.

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Nucleus: Double membrane structure & protects the genetic material for years. It contains DNA.

Nucleolus: It is present within the nucleus. It is responsible for the production of ribosomes.

Rough & Smooth Endoplasmic

Reticulum:

Rough endoplasmic reticulum contains ribosomes. It is involved in the synthesis of proteins.

Smooth ER does not possess ribosomes. It is involved in the detoxification of drugs, metabolism, Lipid synthesis etc.

Mitochondria: It is the power house of cell. It generates energy in the form of ATP.

Ribosomes: Non membranous organelles & responsible for protein synthesis.

Golgi Apparatus:

It is used for the functioning, transportation, modification of vesicles. vesicles contain carbohydrates, lipids, lysosomes & antigens.

Lysosomes:

Bag like structure & contain hydrolytic enzymes which kills microbes & aging cell itself.

Cytoskeleton:

It supports cell & helps it to maintain its shape & size.

c) Galaxies &

its types &

Movements

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Galaxy consist of Stars, interstellar particles, dust & gas in it. There are different types of galaxies such as Milky Way, Andromeda. Some galaxies move however some are constant. Their movement have been seen in the Telescopes.

(d)

Earth

It is a planet.
It obtains energy from star like Sun.

It passes mount
ains, water, air,
organisms. Therefore,
life is possible
-here.

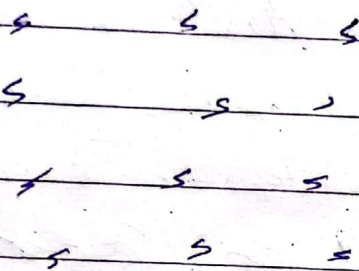
Sun

It is a star
It does not
obtain energy from
any other source
but has its own
source of energy

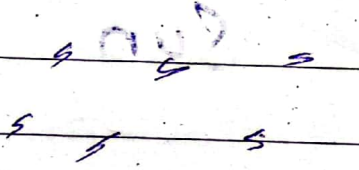
It is so hot
that its temp-
erature is 1500°C
& no organism
can survive
on it.

It moves around the sun.

It has equator, poles.



It is dependent on the energy of sun.



It moves around the galaxies.

It consist of convective Zone, radiative Zone, corona, photosphere & Chromosphere.

It does not depend on any one & makes energy from fusion react ion

Q.No.2,

Climate

Climate is the weather pattern of atmosphere.

Due to different gases in environment

Environment

It is the place where gases are present & sustains human life.

Environment depends on

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ent-the climate
is changing.

• It is import-
ant because without
it no rains or
other factors would
happen.

gases which
makes it stable

It is important
for every living
organism as
it contains
oxygen which is use-
ful for breathing.

Causes of air pollution in Pakistan

There are various
causes of air pollution in
Pakistan. A few of them are
industries, automobiles &
burning of fossil fuels, burning
of crops etc. Pakistan is
facing smog which is also
a form of air pollution.
Air pollution is involved
directly or indirectly in various
diseases. It must be control-
led by using public transp-

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ort, lower the burning of fossil fuels, minimize the smoke of industries & diminish the burning of crops after cultivation.

(b) Vitamins & their Role in Human body

Vitamins are organic substances which are required in small amount by our body. As they do not provide us energy but are involved in various important functions of our body.

Types of Vitamins:

1) Water dissolving Vitamins,

Water dissolving vitamins are A, E, D, B complex & C. These can be dissolved in water and are involved in proper function of our body. B complex is responsible for good vision, metabolism, nucleic acid formation etc, however, vitamin C is involved in calcium absorption by bones.

Fat dissolving vitamins,

These vitamins are dissolved by fats and involved in various functions of our body. These vitamins are vitamin A, D, E, K. Vitamin A is good for vision, vitamin D is good for bones, vitamin E is good for skin, vitamin K is good for metabolism & is produced by large intestine.

(d)

Active Sensors

Active sensors have their own energy source & they do not depend on any other source of energy for their functioning.

Passive Sensors

Passive sensors are those sensors which are dependent upon sun light as their energy source. They do not possess their own source of energy.

Both sensors are used in the geographic information system (GIS). As one provides information & images during daytime.

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While other active provides information 24 hours a day. As it does not need energy from sun.

(Section II)

Q No 7:

$$= \frac{3}{5} \times 100$$

$$= 60\%$$

$$\frac{5}{3} \times 100$$

$$= 166\%$$

percentage error in calculation is 106%

Q 7)	Tablets	Medication/mg.
	1	30.
	2	240

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$$x = \frac{240 \times 30}{1}$$

$$x = 3$$

Thus, 3 tablets are require
for 240 mg medication.

b)

$$5:8$$

30 chocolates.

$$5+8=13$$

$$\frac{5}{13} \times 30$$

$$= 9.$$

$$\frac{8}{13} \times 30$$

$$= 6.$$