

General Science and ability

Part II Section-I

QNo 3:

a- discuss different parts of eye. How far-sightedness or short sightedness can be corrected

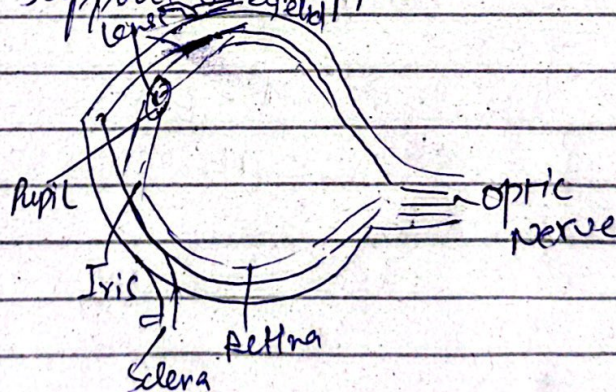
Ans- Eye have different parts Iris, Retina, Pupil, Sclera, Lense, Cornea, optic nerve etc.

- All parts play different role for eye to create image of what is in front of human.

- Retina is the part of eye is photo receptor that play important role in creating image

- Pupil is the ball like structure having lense helps to move it to see in different directions

- Iris supporting eye pupil



Far sightedness:

eye disease in which person cannot see distant objects clearly. it can be corrected by convex lense. it is thickest from center.



Short sightedness:

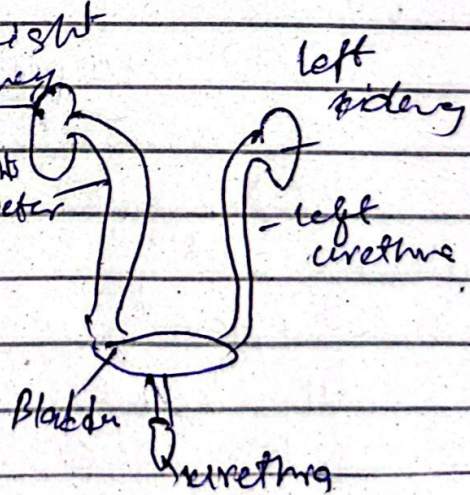
eye disease in which person cannot see near objects clearly. It can be corrected by concave lens if it is thin from center



Qno 3 b. How does kidney work? Explain with diagram

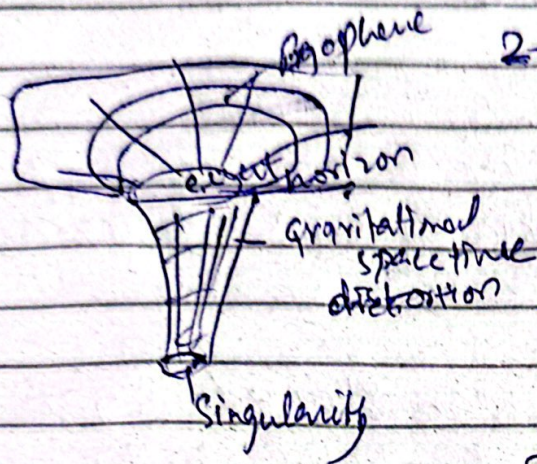
Kidney is dark red bean shaped organ in human body which helps body to clean blood and remove chemical substances and waste from blood and pass that out from body through urine.

- As shown in diagram, kidney filters out blood and pass the waste. as ureter attach with kidney take that waste to uretra to pass out.
- One kidney can filter enough blood to keep your body functioning normally.



Qno 3: How black holes are formed?

Black hole is massive space from where gravity is so strong that even light cannot pass out from that



2- In 1916, Karl Schwarzschild children condensed it to general relativity.

3- After Big bang, stellar center of massive stars collapse into itself create super nova the explosion

stars blasts and their pieces in states create black hole.

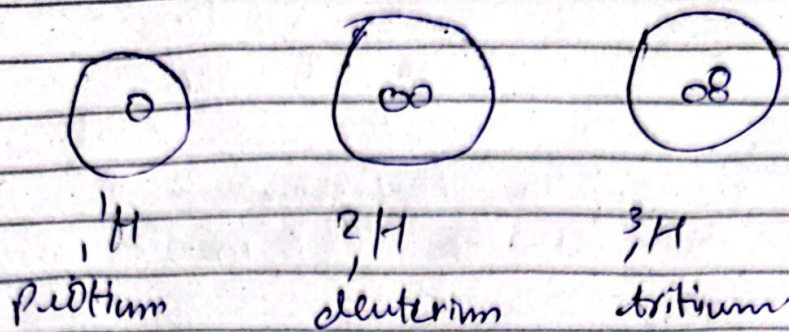
Qno 4: What are isotopes, isobars, and isotones? examples of isotopes of hydrogen

→ Isotopes, isobars and isotones are atoms with same number of protons but different number of neutrons

→ Isobars have different chemical compounds have equal atomic mass values

→ Isotones have different chemical compounds have equal number of neutrons

→ Hydrogen have three isotopes called hydrogen 1 or protium, hydrogen 2 or deuterium and hydrogen 3 or tritium



Qno 4:-

a- How earthquakes are generated? Distinguish with Tsunami

Earthquakes are generated due to seismic waves create vibration in earth crust, abrupt movement of tectonic plates.

Earthquake have many causes

- continuous slow motion break of rocks due to strain on planets
- sometime faults rocks slips
- volcanic eruptions
- isostatic adjustments.

Earthquake is different from Tsunami

as Tsunami is abnormal sea wave that cause catastrophic damage when it hits coast line. Rapid displacement of body of water. ⇒ 80% pacific oceans Rings of fire
 ↳ it cause due to sea earthquake

- landslide
- eruption volcano
- asteroid crashing.

b- Coriolis force is an apparent force caused by the earth's rotation

→ Coriolis force is responsible for deflecting winds towards the right in the northern hemisphere and ~~towards~~ towards the left in southern hemisphere.

→ The sun's heat and earth rotation lead to hurricanes, they form over ocean, often beginning as tropical wave. Low pressure that moves through moisture-rich tropics, possibly enhancing shower and thunder storm activity.

↳ Solar & Lunar eclipse

Solar eclipse - moon orbits earth, moves between sun and earth moon block light of sun to earth and causes shadow on it.

Types

Total solar eclipse: moon completely cover sun, see from earth.

Partial solar - moon and sun don't align in perfectly straight line cover partial disc

annular solar eclipse - Moon appear smaller than sun, bright ring, annulus, sun remains visible during eclipse.

Lunar eclipse

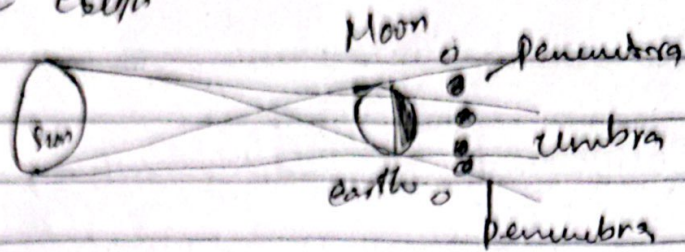
Moon orbit earth, earth orbit sun earth moves between sun and moon. earth block of sunlight earth shadow falls on moon.

penumbral lunar - only passes penumbra of shadow.

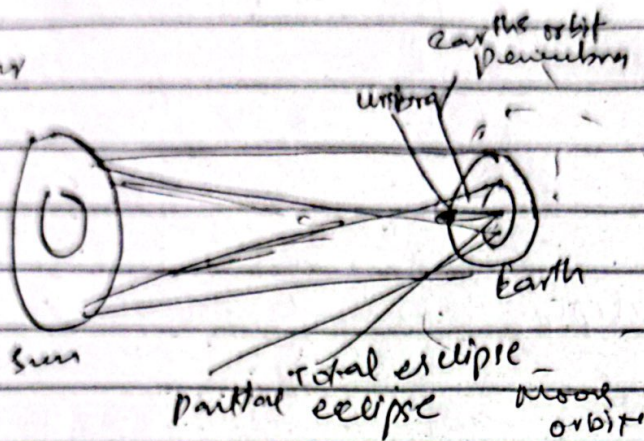
partial lunar - passes through umbra of earth's shadow.

Total lunar eclipse - entire moon passes through umbral region totally obscured.

Lunar Eclipse



Solar



Qno 4. What is doping in semi-conductors

doping is process of adding impurities to intrinsic semiconductor to alter their properties

There are five general types of ceramics, including structural, refractory, electrical, magnetic and abrasive

Section 2

Qno 7

a. Sale price = 96000

$$1^{st} \text{ scoty} = (20\% \text{ of } 96000) + 96000 \\ = 115,200$$

$$2^{nd} \text{ scoty} = 96000 - (20\% \text{ of } 96000) \\ = 96000 - 19200 \\ = 76800$$

Q7 a-

$$x = 20\%$$

$$= \frac{a^2}{100} \quad x = \frac{20 \times 20}{100} \times 100\%$$

Q7 b-

$$k = 195 \times 20 \times 20$$

$$k = x \times 13 \times 18$$

$$x = \frac{195 \times 20 \times 20}{13 \times 18} \times 100$$

Q7 c.

A1

= {b, c, d, f, g, h, j, k, l, m, n, p, q, r,

s, t, u, v, w, x, y, z}

Q7 d)

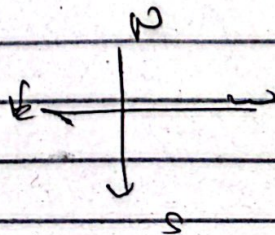
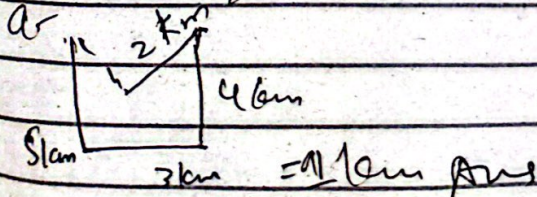
$$372 = \frac{4}{3} \times \text{area of base}$$

$$\sqrt{372 \text{ cm}^2} = \text{area of base}$$

$$19.28 \text{ cm}$$

$$\text{perimeter} = 19 + 19 + 19 + 19 \\ = 76$$

Q8



Ques 8b-

pizza 8 slices

raisin 3 slices

Sliza \rightarrow slic probability = $\frac{1}{8}$

Ques 8(c)

12 triangle

Q 8 d-

factors affect IQ

\rightarrow Physical health

\rightarrow Mental health

\rightarrow environment

\rightarrow relationships around you

\rightarrow experience, knowledge you have

\rightarrow brain exercise