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Test # 05

General Science and Ability

Question No. 2

Part (a) Climate fund

COP-27 and COP-28's in countering Climate change or global warming

Conference of Parties (COP) are conducting under the United Nations Framework Convention on Climate change. In 2022, its conference was held in Egypt, Sharm-al-Sheikh (COP-27). COP-28 was conducted in UAE in 2023. The idea of Climate related Fund called Loss and Damages Fund was established in Cop-28. The fund has an aim to provide assistance to climated affected funds. It will be beneficial for developing and underdeveloped

developed countries.

Idea of loss and damage fund at COP-27

At COP-27, the idea of loss and damage fund was floated.

Background of the proposal

The climate change caused severe heat waves and caused global warming. The climate change and global warming caused unprecedent rainfall and glaciers melting. The threat of flood increases and severe floods were observed in Pakistan Madagascar and Nigeria. These floods severly affected these underdeveloping countries. Although these countries contribute less in carbon emission but badly affected by climate change.

The proposal of loss and damages fund was presented

few things remained undecided It included the parties who contribute, the criteria of collection of fund and distribution of fund. These questions being resolved by COP-28.

COP-28 and Loss and Damage Fund

In COP-28 it was decided that this fund would be collected from developed nations i.e global north who contributed a lot in carbon emission. This carbon emission caused global warming. The funds will be distributed among worst affected nation due to climate change. According to UNICEF Report on climate influence, Pakistan is among the top five nations. The fund is 780 million dollar. World Bank was given the authority for four years.

the skull. Light facilitated eye

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Conclusion

The loss and damages for countering global warming effects was established in COP-28. It is a remarkable decision in order to facilitate the under-developed countries.

Part (b)

Input and Output Devices of Computer

Input devices in a computer

Definition

Input devices are those devices through which the instructions were given to the computer.

The instructions for the processing were given through input devices. Examples of input devices

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Examples of input devices include keyboard, mouse and joystick etc.

Output Devices in a computer

Definition

The output devices display the processed information on the screen or in print form.

After processing computer convey the results through the output devices.

Examples of output devices

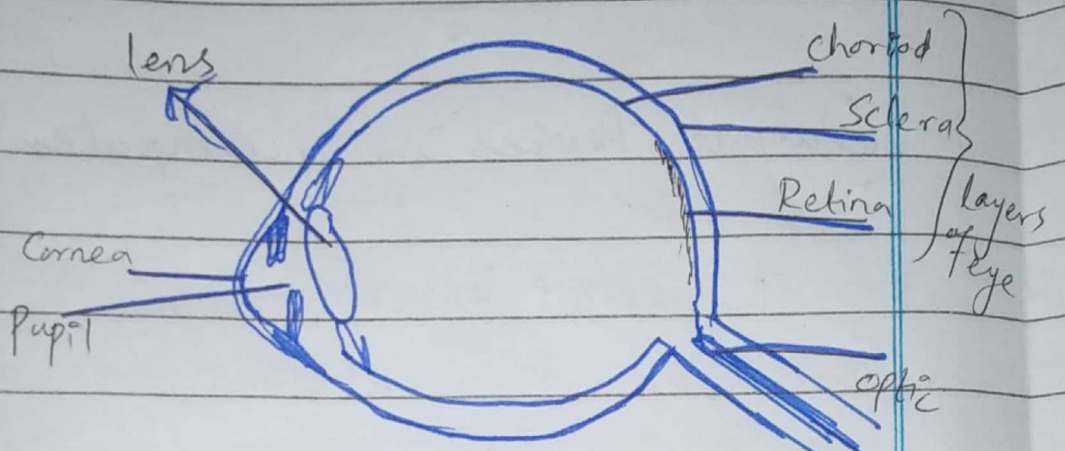
Monitor, Printer

Part (c)

Functions of Cornea, Pupil, convex lens and retina in Eye

Eye is a receptor in a human body. It helps in vision. Eyes are located in the socket of the skull. Light facilitated eye

in image formation and colour perception.



Structure of human eye

Function of its parts

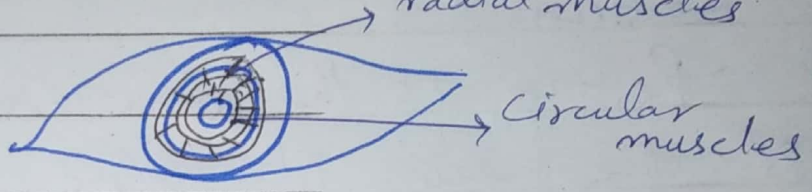
1- Cornea

Cornea is the transparent part at the front of the eye. It protects the eye. Light enter to the eye through the Cornea.

2- Pupil

After Cornea, there is a pupil. It is a hole in the eye. The Iris which is the colour part of the eye, adjust the size of the pupil. In bright

light it contract or contrict while in dim light it dialates. There are two types of muscles in pupil radia muscles and circular muscles.



In the presence of dim light the radial muscles contract while the circular muscles relax. Thus the size of pupil dilates. While in the presence of the darkness the circular muscles contract and radial muscles dialates. Therefore, the size of the pupil constrict.

3- **Convex lens in the eye**

Convex lens is infront of pupil. The light enter to pupil pass through the lens. The helps the eye to focus the image on the eye. The size

of the lens change with the distance of the object. For a far object it shapes is more round than vertical for a nearby object.

4- **Retina**

Retina is the sensitive part of the eye. It helps in image formation. It contains rods and cones. When light fall on rods and cones they breakdown into rodopsin and iodosin respectively. This breakdown produce an electric signal which passes through optic nerve to the brain. In optic lope the information is analyzed and the image is perceived.

Conclusion

Eye is a receptor which helps in perception of image. The parts of the eye plays its role in image formation.

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Part (d)

Causes of Water Pollution

Pollution

The addition of the contamination which alter the composition, colour or texture of water, air and land is called pollution.

Water pollution

Water pollution can be defined as the addition of unwanted and contaminated substances in water which affect the colour, composition, odour and other physical properties of water.

Causes of water pollution

There are different causes of water pollution.

1- Sewage water

The addition of sewage water into the streams, rivers and ponds cause water pollution. The

parallel pipes of drinking and sewage water caused seepage of sewage water into the clean drinking water.

2- Industrial waste

Most of the industries are constructed at the bank of rivers. The waste water of the industries create water pollution.

Domestic waste

Along with industrial waste, the domestic waste throw into water reservior caused water pollution.

Leakage of ships in sea

The seepage or leekage of oil from ships in ocean caused water pollution of marine water which caused death of many inhabitants.

Nuclear waste in water

The nuclear waste is mostly

disposed off or water of seas which cause pollution Acidic Rain

The acidic rain which form from the acids of sulphur, Nitrog and CO_2 caused H_2SO_4 (Sulphuric acid), Nitric acid and Carbonic acid. The acidic water is hazardous and cause water pollution.

Question No. 5

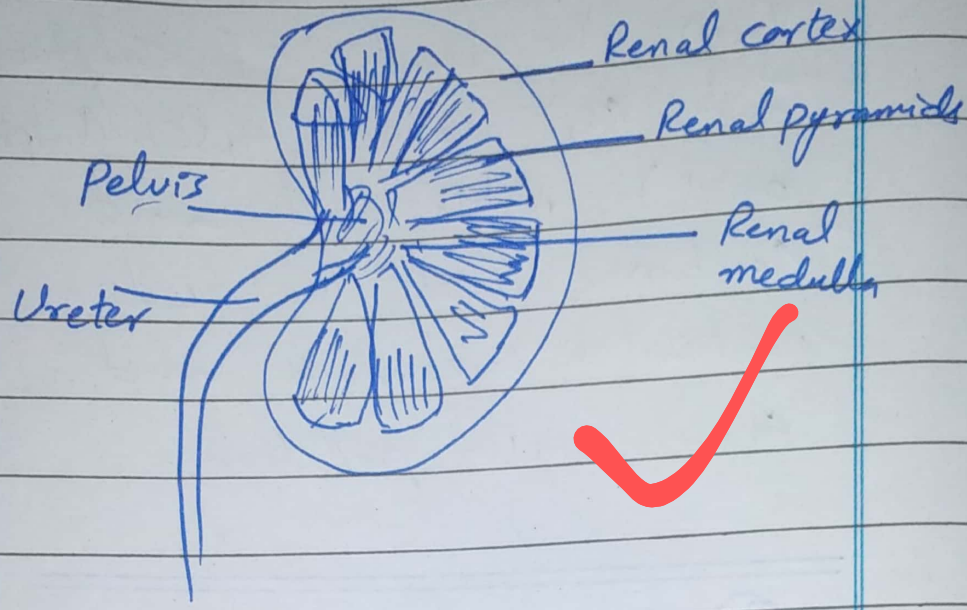
Part (a)

Structure of Kidney

Kidney is the human excretory organ which excrete and removes the waste material from the body. The kidney filter the blood

and nitrogenous wastes are removed through urine.

Structure of the kidney



The human kidney is in brown colour with a bean shaped. These are located at the dorsal side with each side of the vertebral column.

Renal cortex

The outer region is the ~~reto~~ renal cortex, which is lighter in colour. It has some nephrons (the functional

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units of kidney. The **renal pyramids** are dark red in colour and in pyramid shape. Majority (90%) of the **nephrons** are located here. The tips of the pyramids combine at a place which is called **renal pelvis**. The urine which is secreted by nephrons in renal cortex and **renal medulla** are collected in the renal pelvis. From renal pelvis the urine is exit out from kidney through **Ureter**. The ureter are long tubes which transport urine from kidney to the urinary bladder.

Conclusion

Kidney is the excretory organ of the body with a well-defined structure. It structure suited to its function.

Part (b)

Renewable energy Sources Under CPEC

CPEC is an infrastructural project of connectivity in the region. It has the goal to build moterways, highways, and energy projects. The energy projects have both renewable and non-renewable projects. The renewable energy projects are the following.

1. Quaid-e-Azam Solar Project

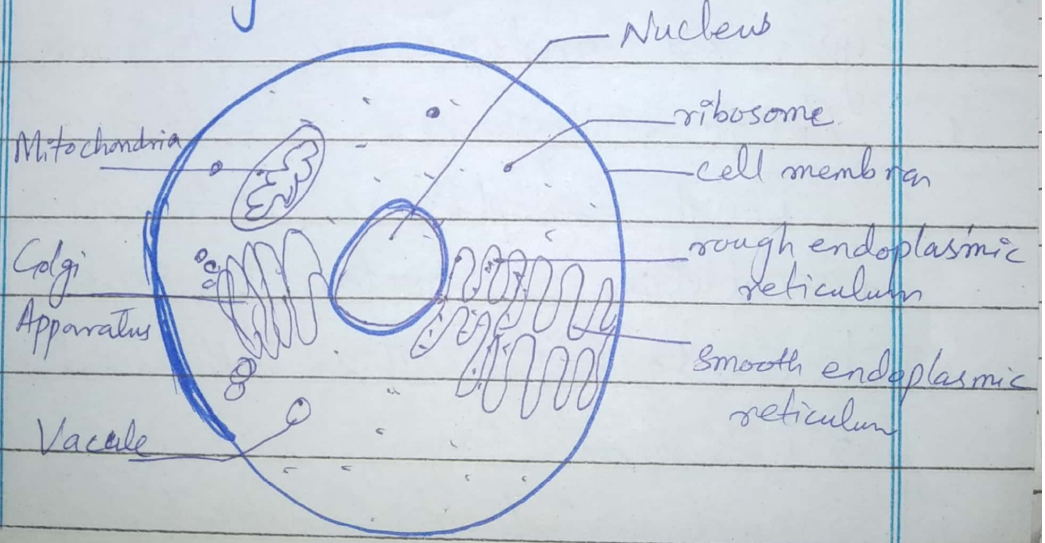
~~The solar~~ project installed in Thar districts generate almost 100 MW of electricity. The heat intensity is high in Thar but face issue of sand accumulation on the solar plates due to sand storm.

2- Wind power generation of electricity
Winda projects were installed which are functional and some are under completion.

3- Civil nuclear energy production
K_2, K_4, K_5 are civil nuclear power plants which are producing electricity for the industrial and domestic purposes in the country.

Part (c)

Part of Cell in Human Body



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1- **cell membrane**

It is the outermost layer of the cell. It protects the inner organelles of the cell. It also provides strength to the cell.

2- **Nucleus**

Nucleus is in the centre of the cell. It has chromatin and make chromosomes during cell division. It has pore on the surface called nuclear pores. It facilitates the transfer of hereditary material during transcription of DNA.

3- **Endoplasmic Reticulum**

In human cell there are two types of endoplasmic reticulum.

1- Rough endoplasmic reticulum

Rough endoplasmic reticulum facilitates in protein synthesis because of the attached ribosomes.

2- Smooth endoplasmic reticulum

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This has no attached ribosomes. It helps in modification of proteins and lipids. It also stores Calcium ions which helps in muscles contraction.

4- **Golgi Apparatus**

Golgi Apparatus has cisternea which are piled upon each other. It helps in modification of molecules and its packaging onto vesicles. These vesicles transported to cell membrane and helps in secretion from the cell.

5- **Ribosomes**

The scattered ribosomes in cytoplasm helps in protein synthesis.

6- **Mitochondria**

Mitochondria helps in cellular respiration to produce energy in the form of ATP. It is also called the power house of the cell.

(Section - II)

Question No. 7

(Part) A

a- Find the missing terms

i- 11, 13, 17, ___ 23

2 is added so 11 convert to 13 and in 13 '4' is added so become 17. In this order 17+2 will be 19 and 19+4 will be 23

11, 13, 17 19 23

ii- 10, 28, 91, 370 ___

b Part (b)

Given Data

No. of Shirts = 35

Price of one shirt = 280

Price of 35 shirts = 9800

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Price after Profit = 35 × 308

= 10780

Formula

- % age profit = Profit / Original × 100

Solution

110
770
5390

% age of profit = 10780 / 9800 × 100

% age profit = 110

OK

Part (c)

Given Data

Actual Age = 10 years

Chronological age = 12 years

Formula

IQ = Mental Age / Chronological × 100

Solution

IQ = Mental Age / Chronological age × 100

= 10 / 12 × 100 = 250 / 3

83
3|250
24
10
9
10

IQ = 83

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Part (d)

Given Data

Average of 30 boys = 150cm

Total no. of boys = 30

Wrongly copied digits = 135 in place of 165

Formula

- Mean = $\frac{\text{Sum of observations}}{\text{no. of observations}}$

Solution

- Mean = $\frac{\text{Sum of observations}}{\text{no. of observations}}$

$$150 = \frac{x}{30}$$

$$x = 4500$$

~~Total number~~ Sum of observations = 4500

Find wrongly placed observation by subtracting 30 (165 - 135 = 30)

In order to subtract 30 from 4500 we get

= 4500 - 30

= 4470

Therefore, the new mean

$$\text{Mean} = \frac{\text{Sum of observations}}{\text{no. of observations}}$$

$$= \frac{447\cancel{0}}{3\cancel{0}}$$

Mean = 149

Mean = 149

Question No. 6

Part (A)

Given Data

no. of Persons = 2

Ratio = 5 : 3

Formula

$$\therefore = \frac{\text{Ratio}}{\text{Sum of ratio}} \times \text{Total}$$

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Solution Sum of ratios = 5+3 = 8.

Share of A = $\frac{5}{8} \times 8$

= 5

Share of B = $\frac{3}{8} \times 8$

= 3

Person A = 5 pieces

Person B = 3 pieces

Part (d)

Given Data

Aslam do work in = 10 days

Ali in = 15 days

Najam in = 20 days

Formula

LCM

Solution

LCM of 10 = 2×5

LCM of 15 = 3×5

LCM of 15 = 2×2×5

LCM = 5

So they complete the work in 5 days

Part (b)

Given Data

Defeated candidate = 30% of total

Defeated by = 15000 votes

no. of votes of winning candidates = ?

Solution

Let the total votes be = x

votes of defeated candidate = 30% of x

$$= \frac{30}{100} \times x$$

$$= \frac{3x}{10} \quad \text{— (i)}$$

Votes of winning candidates = 70% of x

$$= \frac{70}{100} \times x$$

$$= \frac{7x}{10} \quad \text{— (ii)}$$

For x

$$\frac{3x}{10} + 15000 = \frac{7x}{10}$$

$$15000 = \frac{7x}{10} - \frac{3x}{10}$$

$$15000 = \frac{7x - 3x}{10}$$

$$15000 = \frac{4x}{10}$$

$$\frac{150000}{4} = \frac{4x}{4}$$

$$x = 37500$$

No. of votes of winning candidates

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$$= \frac{7x}{10}$$

$$= \frac{7 \times 3750}{10}$$

$$= 26250 \text{ Notes}$$