

c) Role of GIS in Environmental Science

i) To monitor the environment by using Satellite images

ii) To monitor the natural resources, soil and habits of different species

iii) For a Collaborative mapping solution.

iv) For observation the pollutants in the different states of environment.

v) To identify a workable solution by assisting the laboratory work done by environmentalists

d)

v Nuclear wastes

The remainings of Uranium, Plutonium and Radium used in nuclear power plants are another biggest source of land pollution.

b) Main Goals of Cop-27.

A/c to World to Economic Forum:

1. Mitigation.

To reduce global carbon emission and to control warming below 2°C.

2. Adaptation

To assist the most vulnerable communities of the world.

3. Finance

To finance energy and other climate friendly objectives by collecting \$100 billion.

4. Collaboration

To enhance collaboration with all countries to form a comprehensive and practical framework for climate change.

Q4

a) Causes of Land Pollution

Land pollution is a global problem. It emits abundance of hazardous matter into the atmosphere and pollutes the ground, air and water. Main causes are as under.

1. Population explosion

In 1960 it was 3 billion and in December 2022, it reached up to 8 billion. (UN Census Bureau).

2. Rapid Urbanization.

In 1960 only 25% of total world population was Urban and in December 2022, urban population has reached upto 63%. (UN Census Bureau).

3. Generation of Solid wastes

Open dumping in most of the cities and towns are a major reason for huge piles of solid waste in the vicinities of towns.

4. Rapid Industrialization

The wastes of agriculture products, organic and non-organic materials that are extremely dangerous to human health.

The filtrate of the blood then collected into the collecting duct which terminates it into the Urethra through ureter.

The role of Glomerulus is important in the reparation of filtrate.

From Urethra it passed out from the human body ^{in form of} ~~through~~ urine

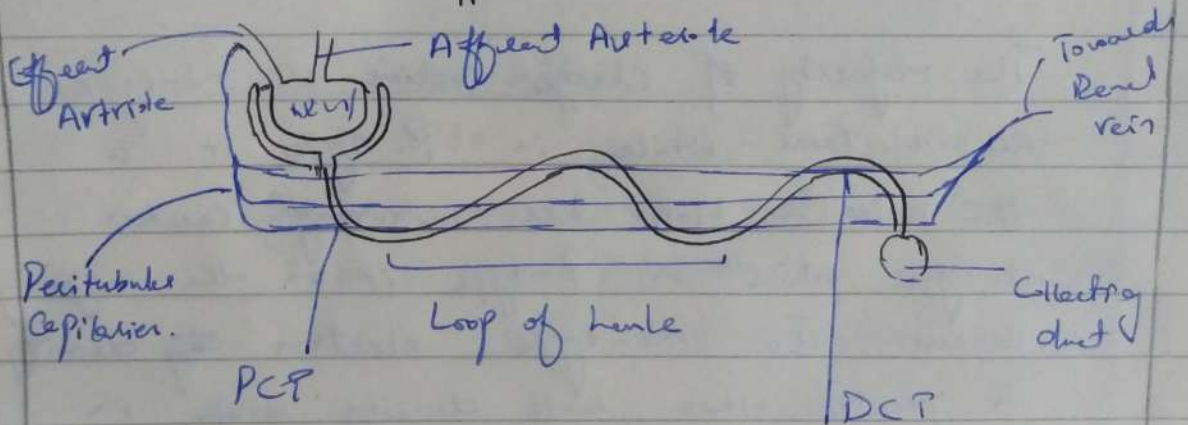
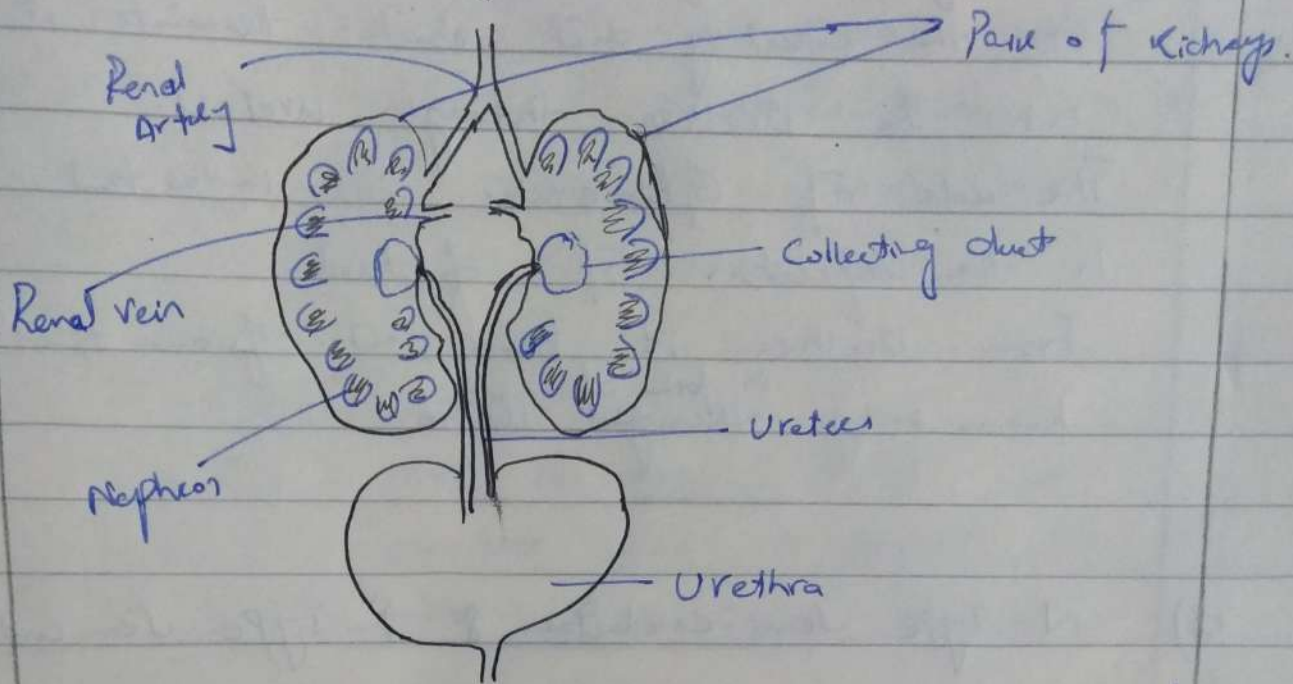
d) N-type Semiconductor & P-type Semiconductor

The majority of charge carrier in N-type are electrons while in P-type it is the holes. Holes are minority carriers in N-type while in P-type it is the majority carriers. In N-type electron density is greater than hole density while in P-type it is opposite.

Semiconductors are the basis of Modern Electronics. It is because of the use of Semiconductor as integrated circuits (ICs) also known as microchips. In actual Semiconductors work like a switch that allow the flow of electrons to be controlled. It enables the modern electronics for complex electronic functions.

c)

Role of Kidney in Urine Formation.



Blood from all body comes into the pair of kidneys, where it is redistributed into fine capillaries. The fine capillaries take blood into the unit of the kidneys called nephron.

A nephron is a functional unit of kidney which separates excessive water, salts, minerals, vitamins, sugars and amino acids from the blood.

b) i) COMPOSTING In Solid Waste Management

It is a process of dealing organic solid wastes. It is also called aerobic (oxygen required) method, controlled by biological decomposition of solid waste.

Bacteria are used to convert the solid waste into "fertilizers", called Compost.

It has many forms, notably Vermi-Composting. A process in which earthworms are used to convert the solid waste into fertilized soil.

ii) Incineration in Solid Waste Management

Incineration is used for non-organic solid wastes. It is used to decompose destroy the waste of hospitals, industries and laboratories. Waste is burnt with the help of incinerators. Due to burning of solid waste, it is subject to objection by the environmentalists.

iii) PYROLYSIS In Solid Waste Management

It is an advanced process of decomposing organic material in the absence of oxygen. It is a non-aerobic method. Pyrolysis is used for Bio-mass to convert it into combustible liquids and gases at high temperatures.

ended and supported by proper diet.

Many diseases are a result of poor nutrition. Our body is in need of vitamins, minerals, nutrients, carbohydrates, fats and lipids. The deficiency of which can cause diseases.

For instance,

- i High blood pressure is a result of too much salt in diet.
- ii Heart attack is mainly due to the closure of arteries and veins because of excess intake of saturated fats.
- iii Absence of calcium in daily diet can cause osteoporosis - bone related problem.

Conclusion

Since many diseases occurred due to unhealthy diet, therefore the future doctors will suggest proper nutrition instead of treating patient with drugs. In addition for strengthening the immune system, healthy diet is *sin-qua-non*. Hence ~~the~~ it is convenient for the doctors to treat humans with nutrition advise.

GENERAL SCIENCE

6

Section - 1.

Q₂ a)

The Doctor of the future will no longer treat humans with drugs but rather will cure and prevent disease with nutrition. Explain?

Introduction

"A healthy outside starts from the inside." The period of Covid-19 altered old conceptions regarding health. On one hand, it amplified the significance of hygiene, and on the other hand, it validated the importance of healthy diet.

Why there will be a need of nutrition for curing and preventing diseases.

A healthy diet fulfills the bodily needs. The nutrients required for growth and repair of tissues, bones and muscles.

Nutrition is what essential for immune system.

Human bodies have inherited an immune system that is sufficient to cure and prevent disease provided that it

A)

Property = 1750,000 Rs.

Debt = 150,000

Remaining Amount = 1600,000

1750,000
150,000
<hr/>
1600,000

i) Share of Son = $\frac{1600,000}{1} \times \frac{2}{3}$

= $\frac{166666.7}{81}$

$3 \sqrt{3200,000}$

= 16666.7 Rs.

ii)

Share of Daughter = $\frac{533333.3}{16,00,000} \times \frac{1}{81}$

= 533333.3 Rs.

Q b

Arithmetic Mean of Cubes of 1st Five Prime Nos

First five Prime Numbers are = 2, 3, 5, 7, 11

$$A.M = \frac{\text{Sum of all numbers}}{\text{Count of all numbers}}$$

$$= \frac{2^3 + 3^3 + 5^3 + 7^3 + 11^3}{5}$$

$$= \frac{8 + 27 + 125 + 343 + 1331}{5}$$

$$= \frac{1834}{5}$$

$$= 366.8$$

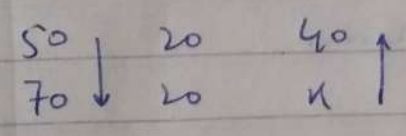
P.W

$$\begin{array}{r} 366.8 \\ 5 \overline{) 1834} \\ \underline{15} \\ 33 \\ \underline{20} \\ 13 \\ \underline{10} \\ 30 \\ \underline{25} \\ 50 \\ \underline{40} \\ 10 \\ \underline{10} \\ 0 \end{array}$$

C)

50 men → 20 km → 40 days

70 men → 20 km → ?



$$\frac{x}{40} = \frac{50}{70} \times \frac{20}{20}$$

$$x = \frac{5}{7} \times 40$$

$$x = \frac{200}{7} = 28.57$$

$$\begin{array}{r} 28.57 \\ 7 \overline{) 200} \\ \underline{14} \\ 60 \\ \underline{56} \\ 40 \\ \underline{35} \\ 50 \\ \underline{49} \\ 1 \end{array}$$

It will take 28.57 day for
constituting a road of 20 km
by 70 men.

d)

Pizza Pieces = 8

Pizza Pieces being raised = 3

Probability of one slice being raised = 1

Total No. of outcomes = 8

No of favorable outcome = 3.

$P(E) = \frac{3}{8}$

$\therefore P(E) = \frac{\text{No. of F.O}}{\text{Total No.}}$

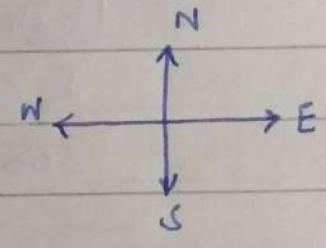
————— H —————

Q 8
a)

Sol

i. The man is standing towards East.

Direction is towards east.



ii. For Distance ?

by Pythagorean theorem

$c^2 = a^2 + b^2$

$c^2 = 5^2 + 9^2$

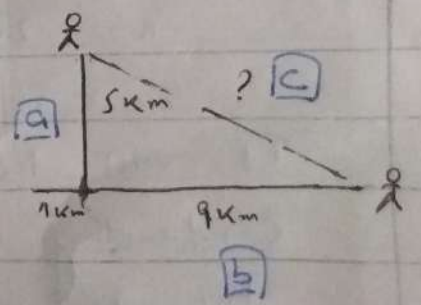
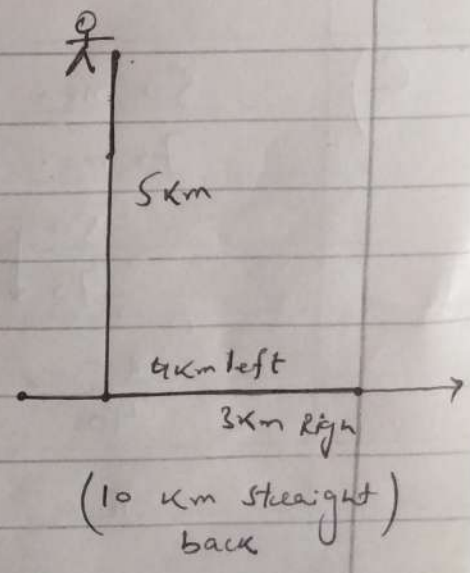
$= 25 + 81$

$c^2 = 106$

$c = \sqrt{106}$

$c = 4\sqrt{6} \text{ km}$

The man is $4\sqrt{6}$ km away from starting point.



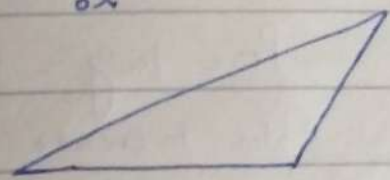
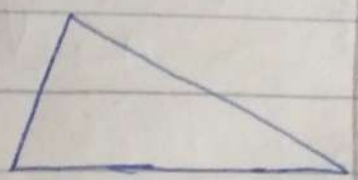
Coding for Sides in QDSRHR

c)

i Scalene Triangle

A triangle whose all sides are different in lengths.

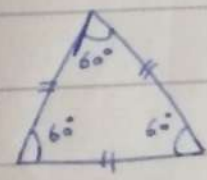
It results in difference or among angles.



ii Equilateral Triangle

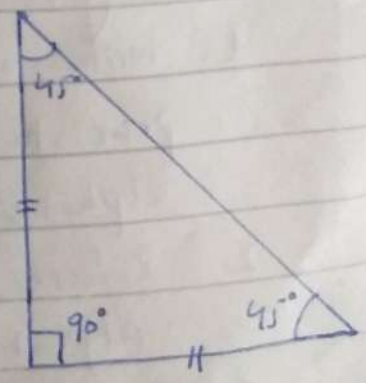
A triangle whose all three sides are equal.

Resultantly its all angles are of 60°



iii A triangle which is isosceles and Right at the same time.

A triangle which is isosceles - having two equal sides, and right (one angle must be of 90°) is possible only when the rest of two angles will be of 45°



GENERAL SCIENCE & ABILITY

(1)

Haroon Khan

Batch # 42

SECTION - II

Q6 a) Identify sector.
~~# 10, 100, 200, 310.~~

Q7 a)

Price tag = 80 Rs.

After increase = 20%

$$\text{Original Price} = \frac{80}{\frac{120}{100}} \times 100$$

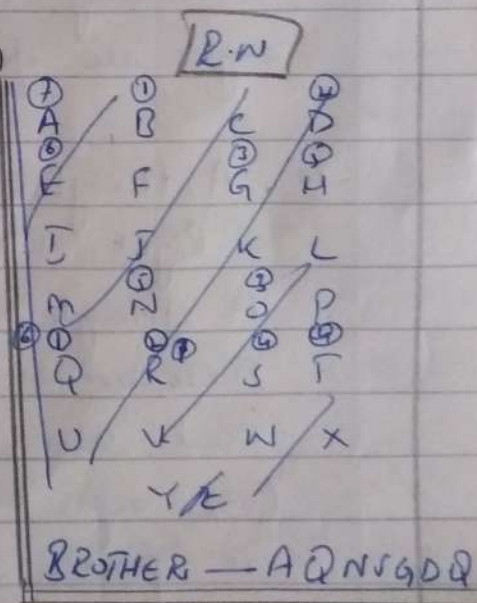
$$= \frac{200}{3} = 66.7 \text{ Rs.}$$

b) BROTHER → QDGSNQA
 SISTER → ?

Sol

Coding Process:

1. Write one alphabet prior to the concerned alphabet.
2. Reverse the order of Alphabet.



Solution

SISTER → R E T S I S
 → Q D S R H R