

PART # 02

Section # 01

Question # 02

(C)

what do you mean by balanced diet?
Deficiency of vitamin A, D and E
Can result into what type of imbalances
in human body?

A human body required different type of energy in the form of Protein, Carbohydrates, and fats for growth in proper manner. Balanced diet means means when body acquired generally nutrients from 5 different groups like Meat, vegetables, milk, beans, and fats. Deficiency of any-one of them results in different types of imbalances in body.

Balanced diet helps to acquire different vitamin in body. whereas shortage of vitamin A, D and E lasts several diseases like bone imbalanced growth, shrinkage of muscles, and improper growth of genes and muscles.

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(d) what is GPS. what is fiber optic? How 2D & 3D locations are measured by satellites?

GPS :

GPS is Global Positioning System. Earth is divided into different hemispheres where latitude and longitude are key to find the location. GPS helps to find any location in globe. One of the GPS systems is Chinese Baidou system.

Fiber optic :

Light travel faster than any other in the universe with approx speed of 3,00,000 km/sec. Fiber optic is introduced to make data travel faster in optical form. In comparison to copper, fiber optic have ~~speed~~ multiple time faster speed. Fiber optic cable's travelling speed is approx 200,000 km/sec, that's make data travel faster.

How 2D and 3D locations are measured?

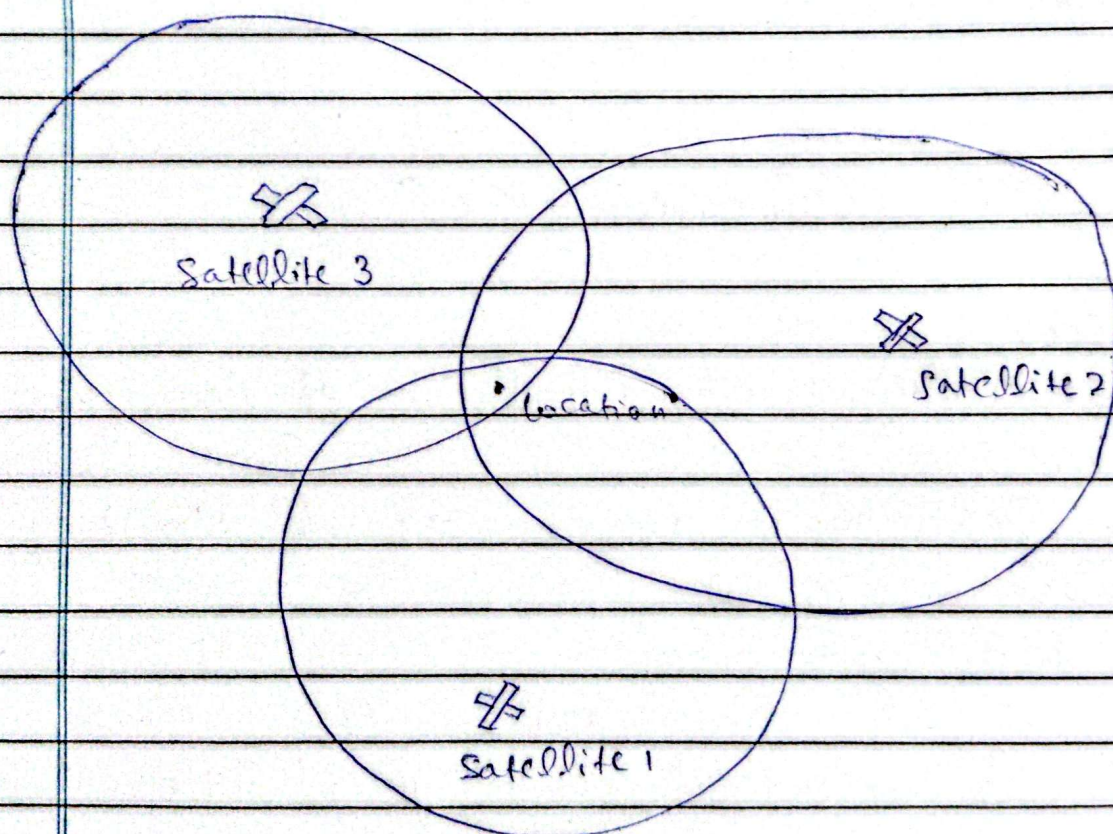
2 dimensional location measured with the help of 3 satellites that are present in atmosphere. These

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3 Satellites are working from 3 different positions that can cover whole earth. Whenever location is required these three Satellites try to find in their neighbour of round sphere, where their point of location match with each other that would consider the exact location.

In contrary 3-Dimensional locations required 4 Satellites to process this task. Because 3D covers 3 dimensions length, width, height of an object / location.



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(b)

Universe is expanding. How it resembles with balloon blowing in working?

With the different experiment and research, astronomers come to conclusion that universe is expanding rapidly. Different theories prove that, like Big bang event shows that universe expands, moreover galaxies and different celestial bodies found moving away from each other. Balloon blowing also works ^{like} same phenomenon that resembles with expanding of universe.

Question # 05

(a)

overview of. Population of Pakistan

Pakistan is a country of almost 250 million population. In recent decade this growth rate has rapidly increased and raised serious concerns. ^{but} 2023 statistical data gives little hope that growth rate is declining in

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in the Country. In 1990 birth rate in Pakistan was average 6 children in a family, where it declined to 3 child in 2023. But still Pakistan growth rate is higher than others, ~~that~~ which stands at 1.5% where world's at 1%.

Cause of population explosion in Pakistan :

(i) illiteracy

illiteracy is the primary cause of population growth in Pakistan. Research shows that people those are educated have less birth rate in their family.

(ii) Lack of Public Awareness :

Difference in population growth in urban and rural areas shows that there is awareness factor as well that contributes more birth rate. where family planning campaign shows decline in growth rate, there is need more efforts in this regard.

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What are Control measures for Population?

- (i) Literacy (specially women literacy) & previous mentioned statistical data shows that people with more education and Career Counselling have less birth rate in their family.

Birth

6

4.3

3.6

2.1

uneducated matric inter university

- (ii) Easy availability of birth protection items and medicine :

one of the major factor that people have higher birth rate is unaccessibility of these items. An average family of urban and rural areas, has major difference because of rural areas unavailability of protection items, with this there should be cheaper medicine in this regard.

(C) "Atmosphere is the blanket of Earth." Justify.

Atmosphere around the earth plays vital role to protect our environment and makes life of different species possible in the earth. Many harmful rays of solar storms etc are exploded from sun surface that are scattered by our atmosphere. That is the reason that our sky looks blue because it scatters the sunlight.

(d) Define the following terms :

(i) Hydrometer

Hydrometer is used to measure the characteristics of water.

(ii) Epicenter

Epicenter is the fixed point on the earth surface. For example whenever earthquake happens, epicenter is measured that where was its origin point.

(iii) Eye wall of cyclone

It is protective measure

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taken around Coastal line in order to protect damage from the cyclone.

(v) Light year

Light travel with the speed on approx 300000 km/sec . when light travel with this speed for one year that would be called one light year. Smallest unit of light year is astronomical unit (AU).

Section II

Question 06

(a) Answer

Apple	=	3
Berry	=	6
Cherry	=	2
Date	=	5

ratio of
 $3:6:2:5$

if Apple exceeds Date by 35

How many Berry Candies are there?

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(b) Answer :

Camera price = 200 \$

get 25 % discount =

25% of 200 is = 50

then 25 % discounted price = 150

plus 6 % tax =

6 % ~~tax~~ of 150 = 9

So,

Total amount paid is = 159

(c) Answer :

Bicycle speed = 18 km/hr

it covered = 36 km

it means ^{this distance}

it covered in 2 hours

started at 1 pm and two hours

~~took more~~ additional

it means it reached ~~at~~

at 3 pm.

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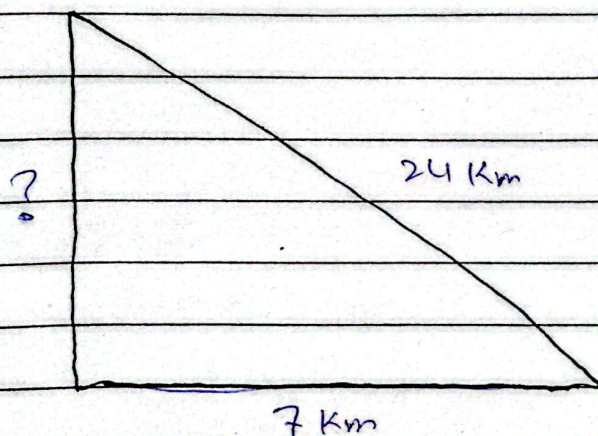
(d) Answer

(i) STSTAICITS = STATISTICS

(ii) LGEBMAR = ALGEBRA

Question # 08

(a) Answer :



By Pethagoras theorem

$$(\text{hyp})^2 = (\text{Base})^2 + (\text{perp})^2$$

$$= (7)^2 + (24)^2$$

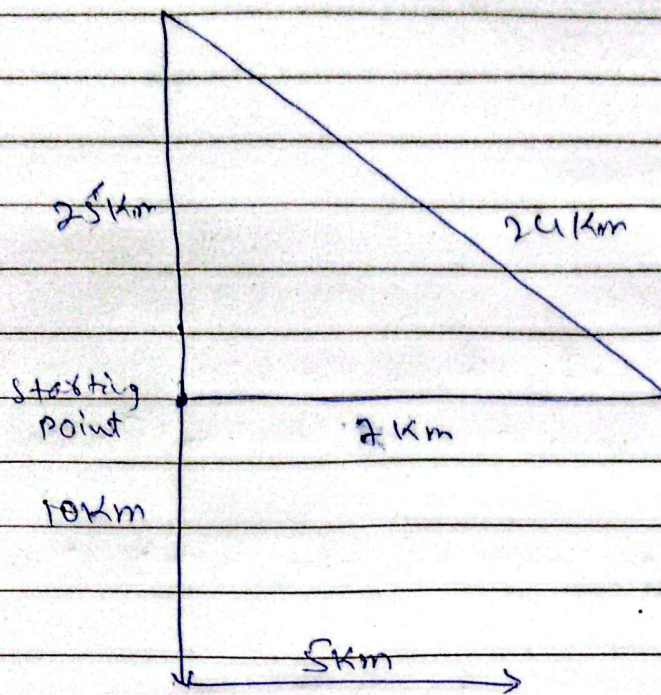
$$= 49 + 576$$

$$\sqrt{\text{hyp}} = \sqrt{625}$$

$$= 25$$

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Total distance walked =

$$7 + 24 + 25 + 10 + 5 = 81 \text{ km}$$

Distance from Start =

$$10 + 5 = 15 \text{ km}$$

(b) Answer :

Six sibling share RS 9000

$$A = \frac{1}{2} B, B = 3C, C = 4D$$

$$D = 2E, E = F$$

first find each of one

$$\frac{9000}{6} = 1500$$

$$\rightarrow \text{Share of } E = 1500$$

$$F = 1500$$

$$A, B, C, D = ?$$

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$$D = 2 \cdot E$$

$$= (2) (1500)$$

$$D = 300$$

(d) Answer:

Family of 8 = 4 + 4

4 women average eat = 50 kg

then

Average eat of one ^{women} = 12.5 kg

then

Average eating of 3 women =
= 37.5 kgAnna joined and average
rose to 67

if

three ^{women} eat on average = 37.5 kgit means today would also be
same

then

$$67 - 37.5 = 29.5$$

Anna eat = 29.5 kg