(1)

Muhammad Rahim (WhatsApp 0344 2822452)

Part-II

Section-I

Question-3

(a)

Causes of cyclone :-

A cyclone is Caused by warm air in oceans near tropic. When warm air arises a low pressure in centre and slowly this winds around the centre get strong and eventually cause a cyclone.

cyclones are named according to the areas where they occur. For example, In the east or the west of USA, these are called as Typhoon Hurricane while in the East of Japan they are called typhone. Similarly willy willies is also a type of tropical cycle.

(2)

World map

USA
North America
Europe
Asia
Japan
Hurricane
Typhones
Africa
South America
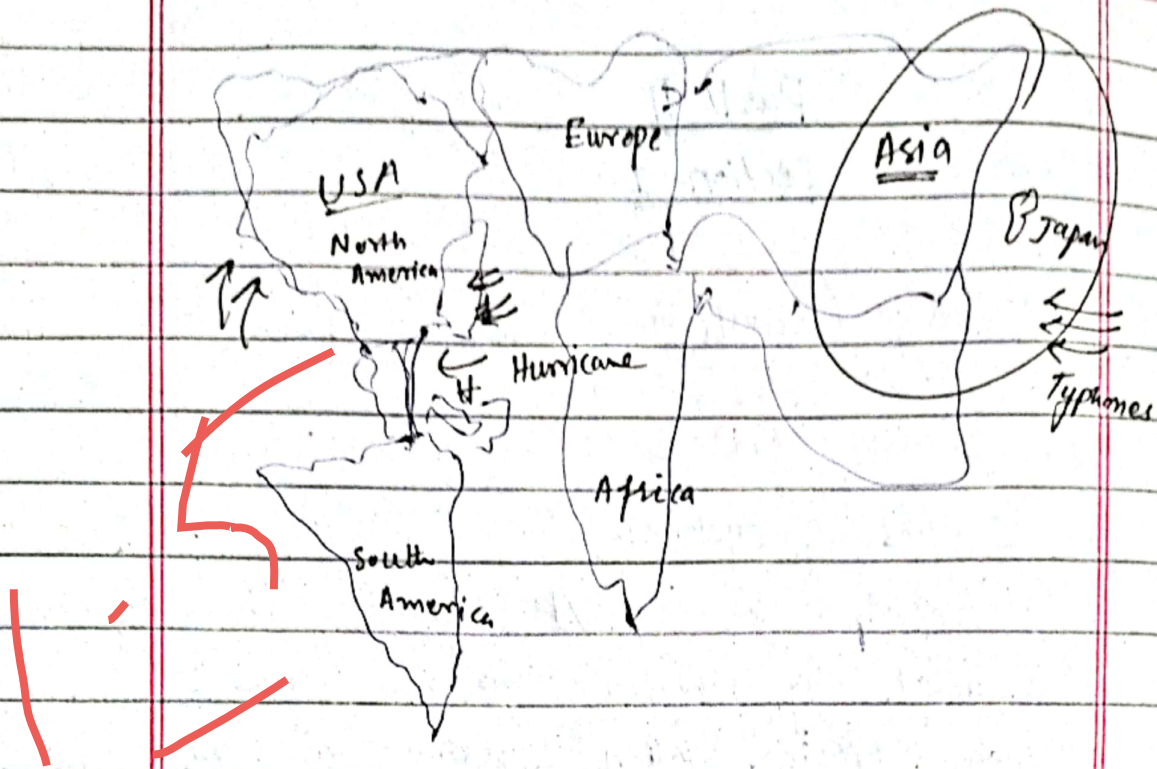
Cyclones are strong in the centre and they very destructive whenever hit at coasts. For example last year Hurrican IAN hit cost of the USA and cuba caused a major loses. Similarly Typon Noro hit many eastern counkies such as Indonesian islands.

(b)

Shallow focus earthquakes:
When the depth of the

earthquake is less than 60 km then it is called shallow focus earthquake.

Deep Focus Earthquake:

Diagram missing

When the depth of the earthquake is greater then 300 km, this will called a deep focus earthquake.

Cause of earthquake

Detail needed here.

There are different causes of earthquake. For example, the moving of tectonic plates of the earth and Erupting of lawa from inside the earth, etc.

Magnitude of Recent earthquake in Morroco

The magnitude of recent earthquake in Morroco was 7.0 on Richter scale. It was a devastating quake which killed more than 300r three thousand peoples and displaced millions.

(c)

Dengue fever :-

This fever is caused by four different viruses namely DEN-1, DEN-2, DEN-3 and DEN-4.

It spread through a mosquito called Ayges Agypti

Syptoms :-

→ High fever
→ Fatigue
→ Vomitting
→ Pain in eyes
→ Restlessness

Causes

Primarily its is caused by virus namely Den, which have four types as described above.

Spread by a mosquito called Ayges Agypti.

Preventive Measures:-

World Health Organization, mostly recommended vector measures such as mosquito nets and sprays against mosquitos.

Beside this mosquito producing atmospheres such as marshy places should be avoided. Children should be kept aside from marshy places.

→ Treatment:-

Still no special of treatment for Dengue discovered. However, a vaccine developed Snofi Pasteus company, which many countries have approved for the treatment of Dengue fever.

(d)

Ionic Bonds:-

When two items share their outermost electrons to complete their outer shells - this is called ionic bond.

For example, if outer shell of an atom contains 3 electrons while another atom contains 7 electrons then will exchange their electrons to complete their valence shells.

Suppose,
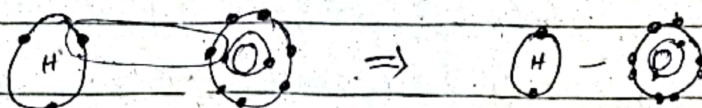
Now here valence shall of "H" is complete i.e its 1st shell contain two electrons and "O" outer shall i.e 2nd shall also completed by accepting one extra electron from "H". This is called a bonding.

Covalent bonds:.

It is also another type of bonding which shares its electrons for completing their valence shalls .. thats a bit different from ionic bond.

——— || ———

Question-4

(a)

Causes of pollution:

Land pollution has many cause. For example.

→ Wastes from industries

→ Use of many pesticides.

→ poor sewarage system in big

big cities.

→ Household wastages are the cause of land pollution.

The causes mentioned above are the major source of land pollution. For example, Industrial wastes and poor sanitary conditions have spread havoc on earth. Various diseases are spread due to land pollution. Thus word must act now to reduce land pollution more and more in order save the earth from destruction.

(b)

Main goals of COP-27.

COP - stands for Conference of parties, being 27th conference of party, it is called COP-27. It was held in Egypt's sharm al sheikh city. The main goals of COP-27 are given below.

1. Establishment of loss and

Damage Fund was the most important milestone achieved in COP-27.

2) Similarly, the other goal was to convence world leaders to phase out coal which partially agreed by different countries in certain time limits.

3) Thirdly, initiatives for African countries as they are most vulnerable from climate change. And many initiatives have been taken.

4) Beside this keeping temperature below 1.5 celsius and reducing the threats of climate change were main goals of COP-27.

(c)

GIS and environmental science:

Environmental science is a subject aiming to curb environmental changes, which pose alarming -threats to the existence of mankind on the earth. As the

climate change and environmental transformation from some centuries is the most burning issue in the world. The GIS is system through which environmental science subject can get its goals easily. It is very helpful for studying environment and its causes & changes.

(d)
Fundamentals of Artificial Intelligence

Artificial intelligence is a human powered technique through which certain softwares, robots, etc perform the functions which otherwise had to perform the man itself.

For example, chatGPT is an AI project. It can write essays, do programming or whatever one ask or want. Similarly, many countries have introduced robot

anchors i-e News casters. Similarly, a company in *May recently appointed an artificial CEO.

Fundamentals of AI includes internet, digital Technology, Energy, Computer programming, etc. And it has also many fundamental objectives i.e creating ease for human. It is aim is to save time and do things acurately.
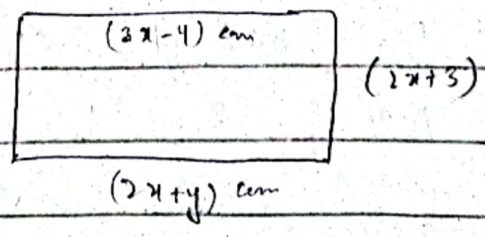
←——————————————→

Section- II

Question- 6

(b)

Solution


```
┌──────────────────┐
│   (3x-4) cm      │   (2x+3)
│                  │
└──────────────────┘
        (2x+y) cm
```

We know that

Area of Rectangle = L × W →(i)

Also given

$$l = 2x + y$$

$$w = 2x - 3$$

So, putting values in eq →(i)

Area of Rectangle = $(2x+y)(2x-3)$

$$= 4x^2 - 6x + 2xy - 3y$$

Solve for perimeter=114

$$= 4x^2 - 6x + 2xy - 3y$$

$$= 2x(x-3) + y(x-3)$$

Area of Rectangle	= $(2x+y)(x-3)$

Ans.

(C)

Solution:

Let Niha's present age is = x

So, Romi's present age is = $x - 15$

if 3 years ago
Niha was 3 times of Romi

So, we know.

→ Romi's present age

$$\boxed{x - 5} = 3(\underbrace{x - 15})$$

↳ Romi's age before 5 year.

Niha's age before 5years.

Now by solving, we get

$$x - 5 = 3(x - 15)$$
$$x - 5 = 3x - 45$$
$$45 - 5 = 3x - x$$
$$3x - x = 45 - 5$$
$$\frac{2x}{2} = \frac{40}{2}^{20}$$

$$\boxed{x = 20}$$

So,

Present age of Niha is 20 years.

(d)

Solution:

Number of Oranges $= 210$

Number of apples $= 252$

and Number of pears $= 294$.

For equally packing we need
to take their ratio i.e

$$210 : 252 : 294$$

Dividing by "2" it becom

$$105 : 126 : 147$$

Thus,

the biggest possible number of
cartons needed is 147.   Ans

(a)

(ii)   3, 7, 23, 95, ——— .

solution:

$$3 \times 2 + 1 = 7$$
$$7 \times 3 + 2 = 23$$
$$23 \times 4 + 3 = 95$$

Reason?

$$95 \times 5 + 4 = 479$$

Thus,

$$\boxed{3, 7, 23, 95, \underline{479}}$$

95
475
4
47.9

(i)   10, 100, 200, 310, 400
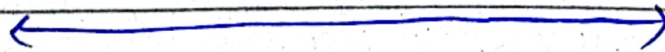
$$10 \times 1 = 10$$
$$10 \times 10 = 100$$
$$10 \times 20 = 200$$
$$10 \times 30 = 300$$
$$10 \times 40 =$$

$$\underline{10, 100, 200, 310, 400}$$ Ans

Question - 8

(b)

Solution:

First five Prime numbers = 1, 2, 3, 5, 7

Their   cubes $= (1)^3 + (2)^3 + (3)^3 + (5)^3 + (7)^3$

we know that Arithmetic

mean is = $\dfrac{\text{Sum of Number}}{\text{Total Number}}$

So,

Sum of $\underset{cube \ of}{First \ "5"}$ prime is

$(1) = 1$

$(2)^3 = 2 \times 2 \times 2 = 8$

$(3)^3 = 3 \times 3 \times 3 = 27$

$(5)^3 = 5 \times 5 \times 5 = 125$

$(7)^3 = 7 \times 7 \times 7 = 343$

So,

A. Mean = $\dfrac{1 + 8 + 27 + 125 + 343}{5}$

A. mean = $\dfrac{504}{5} = 10.8$

Arithmetic mean of

cube of 1st 5 prime number = 10.8

Ans.

(C)

Solution

50 men construct 20 km in 40 day.
70 men will construct same road
in how many days.

$$Men \quad : \quad day$$

$$50 \quad : \quad 110$$

$$70 \quad : \quad x$$

$$\frac{110}{70} = \frac{x}{40}$$

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

$$x = \frac{200}{7} = 28.5$$

$$\boxed{x = 28.5 \ day} \quad Hyperiod$$

Answer

(d)

Solution.

Zahid left property = 1750,000

Debts = 150,000

share of son : 2 part

share of : 1 part

So,

we know debts should be

paid first i.e

= 1750,000 - 150,000

$$\boxed{propert \ to \ be \ clivided = 1600,000}$$

Also we know

Total shares 2+1 = 3

So,

Son's Share = $\frac{2}{3} \times 1600,000$ = 533333.3
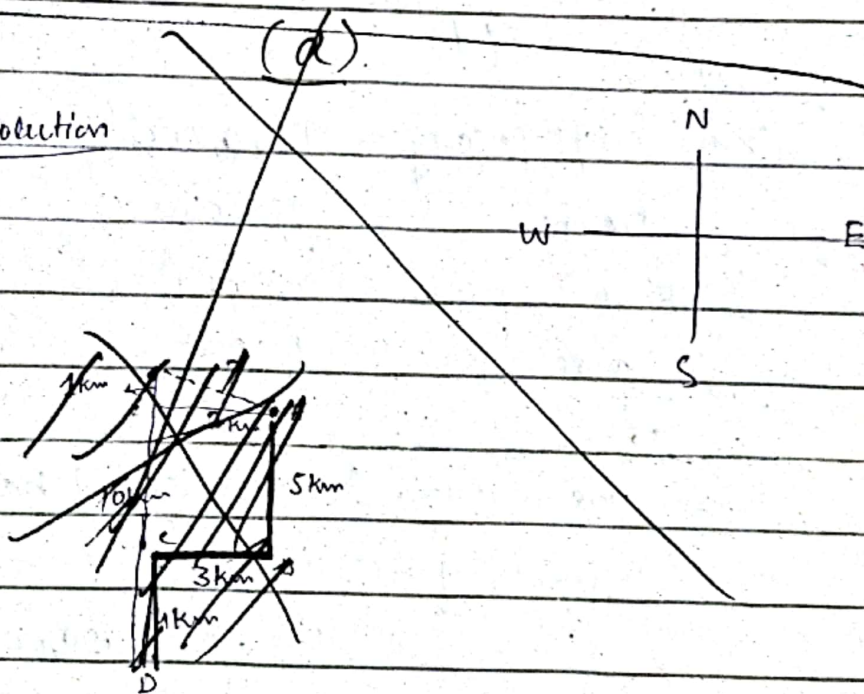
= 2 × 533333.3

$$\boxed{= 1066666.6}$$

Duaghters share = $\frac{1}{3} \times 1600,000$ = 533333.6

$$\boxed{= 533333.3 \ Rs}$$

(d)

Solution

N
W ———+——— E
S

(a)

N

W — E

S

1km [km-1]

3 km A

5km 5km 5km

B 3km

4m 4km

D
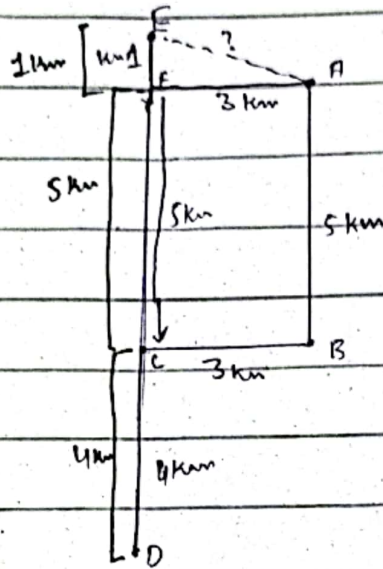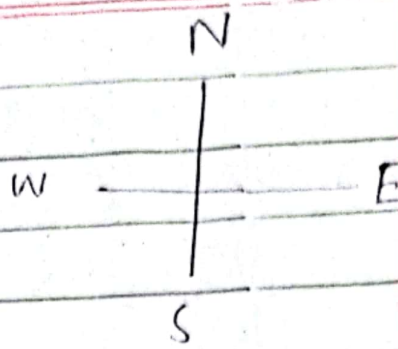
We have to find E A ?

As

$(Hypotenuse)^2 = (base)^2 + (Perpendicular)^2$

So,

$\sqrt{(EA)^2} = \sqrt{(3)^2 + (1)^2}$

$EA = \sqrt{9 + 1}$

$\boxed{EA = \sqrt{10} \, km}$

Answer

He is in North-West direction from his starting Point