

Q. No. 3

General Instructions

When winds from high pressure zone to low pressure zone, it spirals at right angles to the isobars.

1. Give numbering to headings
2. Do not write lengthy paragraphs. Write medium sized paragraphs with headings.
3. Do not use table for comparison and contrast questions.
4. Draw figures/diagram/flowchart where needed.
5. Start new question from fresh page.
6. Write unit of the answer in ability section.
7. Explain mathematical steps and the reasoning for better score.
8. Change colour scheme for references to give them more visibility.
9. Manage time well.
10. Wide page borders are discouraged. Should be reasonable.
11. Avoid writing wrong references.
12. Give more weightage to expressly asked part/s of the question.

Strongest and destructive part of cyclone

The surrounding area of a cyclone has part of most destruction, while the central part. Eye is the calmest part of cyclone.

Strongest	Eye
Destructive Part	Eye

In Pakistan the last cyclone with highest damage came in 1993. Moreover

recently, Cyclone Biparjoy which  
swept in a part of time had  
the potential of the same of  
1993 which damaged infrastructure  
and cost more than 200 lives  
along with loss of economic  
loss due to demographic  
movement.

### Q3. b

## Earthquake-

Earthquake is caused  
due to sudden release of <sup>strain</sup> energy  
from rocks which causes vibration  
on <sup>land</sup> surface.

### Causes

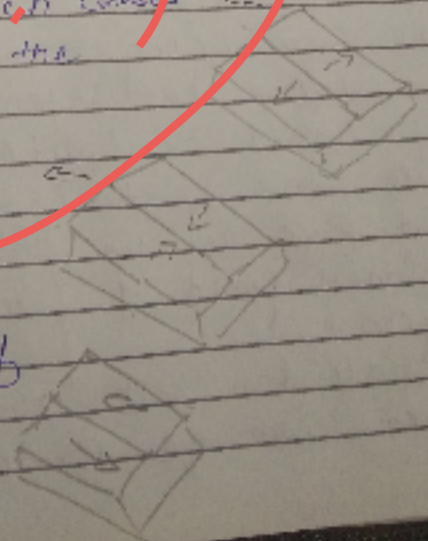
① Plate Tectonics movement:-

The movement of tectonic plates  
sometimes cause <sup>friction</sup> of the  
plates with each other in many  
ways such as

Divergent which causes  
moving away of the  
land surface.

Convergent:  
moving towards  
each other

lateral moving  
side by side of  
to each other  
but in opposite





direction.

Elastic Rebound - This above mentioned movement then to reverse in sudden way like elastic which cause the energy stored in the rocks to release.

② Volcanic Eruption - also cause seismic energy to release suddenly.

③ Mining also sometimes cause disturbance in the lower level of tectonic plates causing earthquake.

## Shallow focus - Deep focus

The point of the tilting of plates which is called fault line varies in depth.

Shallow focus? depth is 0-70 km

Intermediate focus? depth is 70-300 km

Deep focus? depth from 300 to 1000 km

## Measurement of Earthquake

Earthquake is measured through seismograph in unit of Richter scale.

The normal range is 0-4.5

The intense range is 5-8

The earthquake of Kashmir<sup>2008</sup> was 7.8 Richter scale. In the of

Afghanistan 2015 was 7.6 richter scale

## Moyullo Earthquake

Happened on 8 September 2023. Killed nearly 3000 people.

Its intensity was 5.8 richter scale.

## C Dengue fever:-

It is a mosquito born disease which transmit dengue virus through biting.

Symptom:- The person infected has the symptoms of high fever, chills, body aches and joint pain.

Risk:- In some case it even leads to death.

Global concern:- It has many times converted into <sup>endemic and even</sup> pandemic causing concerns worldwide.

Too short.

**Causes:-** (1) As the disease is spread through the mosquito Aedes Aegypti Prevention which grows mostly around stagnant water thus the chances of stagnant water must be reduced or covered.

(2) Full cloths should be worn



along with anti mosquito bite lotions application.

(3) Mosquito nets should be used.

(4) The person infected must be kept hydrated to prevent risk of death.

Acc to WHO around 2000 have died from it.

## d Distinguish ionic & covalent bonds

Atoms make bonds with other atoms or molecules to complete its octate or duplete rule.

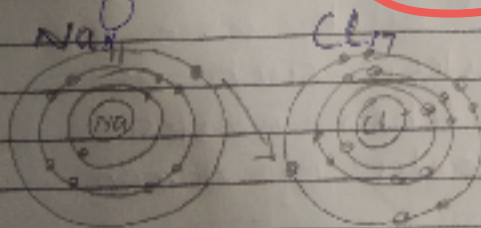
Ionic bond

Do not use table for comparison.

Covalent bond.

In ionic bond there

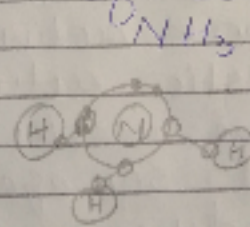
is complete sharing of electron



In this example, Sodium gives its electron of outer shell to chlorine which has deficiency of one electron to complete its octate rule.

In covalent bond there

is partial sharing of electron.



In this bonding of Nitric Acid Nitrogen has deficiency of three electrons to complete its octet rule which is catered through partial sharing with three

## Ionic

Cations

Anions

Usually formed between metal and non metal.

Stronger bond

Cannot be formed between identical or elements

## Covalent

Hydrogen atoms which has deficiency of one atom to complete its duplet rule.

formed between non-metals only.

normal bond.

can be formed between identical atom elements.

Q.4-a.

## Causes of land Pollution:-

Land pollution is the contamination of soil and surface of the land. Most of its cause are human activities such as:-

Domestic activities:- such as home wastes, kitchen wastes and sewage wastes of human body.

Commercial and industrial wastes:- the poisonous materials that are come out of industries and commercial places

Deforestation:- the same waste which could be naturally deposit through forests keeps accumulating



due to absence of forests. Moreover the left over of deforestation also cause ~~to~~ undeposited waste, adding to the pollution. In the same way deforestation also cause ~~degrading~~ ~~grading~~ of the quality of soil, leaving it with lesser capacity for productivity.

Pesticides/herbicides/intense agriculturing - The use of such chemicals also degrades the quality of land.

Acid rain :- The <sup>hazardous</sup> chemicals present in ~~air~~ ~~die~~ ~~atmosphere~~ activity is deposited on soil through rain.

Floods :- Floods brings with it harmful sediments and pathogens from frozen mountains which contaminate the land.

b :- COP 27.

COP 27 was held at Sharm-el Sheikh Egypt under the UN Framework convention on climate change.

Its purpose is to unite the world against global warming and climate change

under one umbrella and aim for concerted action collectively as Angela Merkel. Vice Chancellor of Germany said: "We all must agree on a binding mechanism to fight climate change."

### Aims:-

Cop 27 agreed on so the major following major goals this year. i.e.

Reduce carbon emission as soon as to limit the global warming to  $1.5^{\circ}$  above pre industrial era.

Help developing countries financially to bear the damage inflicted upon them due to climate change who have least contribution to global warming but are bearing the reversal of nature individually.

Provide technology to developing countries.

Apart from giving financial assistance it aimed to provide technological assistance to these countries to transform their energy needs from non-renewable sources to renewable ones.



## d. Fundamentals of AI

Artificial Intelligence is a system that incorporates machines with the intelligence feature of human beings.

- It has the ability to learn, from data available to it, thinking process, language, perception and other multiple forms of information.
- Moreover it has the feature of NLP i.e. Natural Language Processing which were ~~to~~ inherently supposed to be human quality also.
- In the same way it has the capacity of storing large amount of data, and process and sift through it for different purposes.
- Meanwhile it can also solve <sup>problems</sup> almost vast ~~small~~ nature.

Irrelevant answer

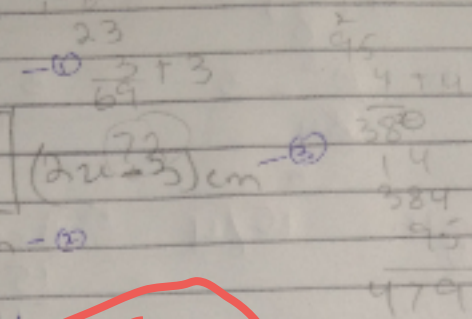
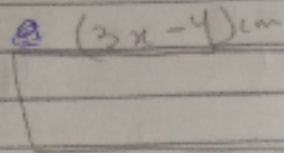
Sec-II

Q.6. a 10, 100, 200, 310, 420 ✓

Explain the reasoning in detail for such questions

b 3, 7, 23, 95, 479 ✓

b



Solution

$$3x - 4 = 2x + 4$$

$$3x - 2x = 2 + 4$$

$$x = 6$$

Put \* in eq (1)

$$3x - 4$$

$$3(6) - 4$$

$$18 - 4 \Rightarrow 14$$

Put \* in eq (2)

$$2x + 4 \Rightarrow 2(6) + 4$$

$$12 + 4 \Rightarrow 16$$

Put \* in eq (3)

$$2(6) - 3$$

$$12 - 3 \Rightarrow 9$$

$$y = 9$$

length is  $5 \times \frac{3}{4} \Rightarrow 15/4$

value of  $x$

$$3x - 4 = 2x + 4$$

$$3x - 2x = 2 + 4$$

$$x = 6$$

$$2(2y) + y$$

$$4y + y = 0$$

$$5y$$

$$3(2y) - y$$

$$6y - y$$

$$5y$$

$$2(2y) - 3$$

$$4y - 3$$



$$\frac{2x + 4}{4} = \frac{8x + 3}{4}$$

$$2x = +3$$

$$x = \frac{3}{8}$$

$$2x - 3$$

$$2\left(\frac{3}{8}\right) - 3$$

width  $\frac{6^3 - 3}{8u} = \frac{3 - 12}{4} = \frac{9}{4}$

length  $15/4$   $\therefore \text{Area} = l \times w = \frac{15}{4} \times \frac{9}{4} = \frac{135}{16} = 8 \frac{3}{8}$

Area =  $\frac{65}{8} \text{ m}^2$  Ans

C

Nisha =  $y$   
Romi =  $x$

Nish  $x + 15$   
Romi  $x$

Nisha =  $x + 15$

5 years ago.

~~net~~  $y - 5 = 3x$

$x + 15 - 5 = 3x$

$x + 10 = 3x$

$3x - x = 10$

$2x = 10$   
 $\frac{2x}{2} = \frac{10}{2}$

$x = 5$

$y = x + 15 \Rightarrow 5 + 15 = 20$

Nisha age  $\Rightarrow 20$  year Answer

d

How? Explain the steps.

Biggest possible number  
of <sup>00</sup> cartons needs is  
42.

2	210	252	20
2	105	126	
3	70	84	
7	35	21	
	5	3	

2, 3, 7, 42

2	210
3	105
5	35
7	7

Q. 7. a

Solution.

20% of  $n = 80$

$$\frac{20}{100} (n) = 80 \times 5$$

$n = 80 \times 5$

$n = 400$  The original price of shirt



b:-

BROTHER = BROTHER

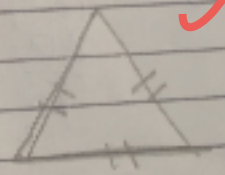
SISTER = SISTER

ZIZVNA

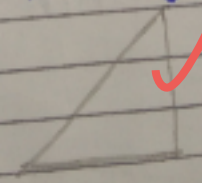
i-Scalene triangle.

Figures are correct but define in sentences. Also, led pencil is not allowed in exam. Only blue and black colours are allowed.

ii Equilateral



iii Isosceles of right



Q1 Write the formula of slice pizza with probability.

$$\frac{3}{8} = \frac{3 \times 100}{8} = \frac{300}{8} = 37.5\%$$