

General Instructions (1)

Subject: General Science and Ability

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 expressedly asked part/s of the question.

Batch: 012

Date: 21 Sep 2023

PART-II

SECTION-II

Q. 8

b) The Arithmetic Mean of first five prime numbers

Solution

First five prime numbers

1, 3, 5, 7, 11

Adding all numbers

$$1 + 3 + 5 + 7 + 11 = 27$$

(2)

Formulae

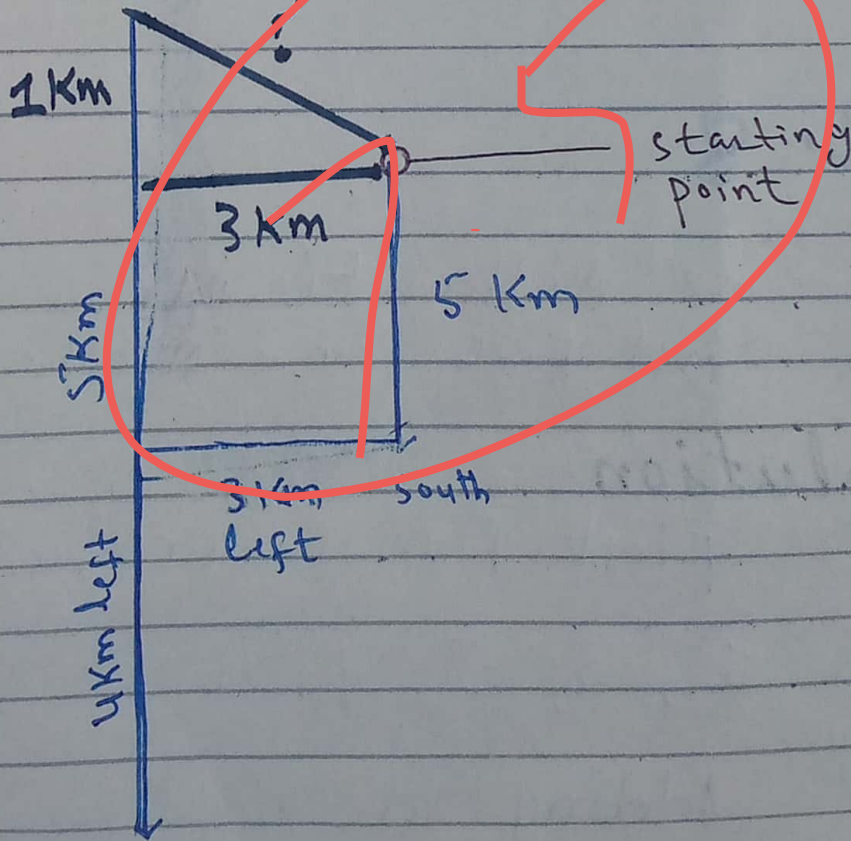
Arithmetic Mean = $\frac{\text{Sum of All numbers}}{\text{total Numbers}}$

$$A.M = \frac{27}{5}$$

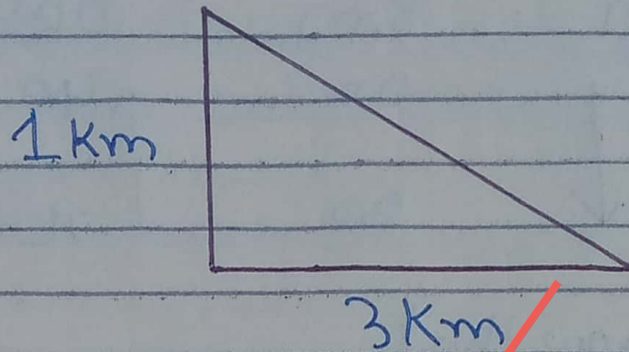
A.M = 5.4 → Ans

A)

North ← West side



(3)



Formula *

$$\text{Hyp}^2 = \text{Base}^2 + \text{Per}^2$$

Putting the values in Formula

$$H^2 = 3^2 + 1^2$$

$$H = \sqrt{9+1}$$

$$H = \sqrt{10}$$

$$H = 3.16 \text{ Km}$$

1) He is 3.16 Km away from his starting point

2) He is in the North-west side from his starting point

(c)

(4)

Men	Km	Days
50	20	40
70	20	x

We know that

$$x : 40 :: 50 : 70$$

$$70x = 40 \times 50$$

$$70x = 2000$$

$$x = \frac{2000}{70}$$

$$x = 28.57$$

So, 70 men will construct 20 km road in 28.57 days.

(5)

d)

Total Inheritance = 1750,000
Debt to be pay = 150,000

Remaining balance = 1750,000
- 150,000

~~Remaining balance = 1,60,0000~~

Rs ✓ 1600000

⇒ Son Part = $\frac{800000}{1600000}$

~~Son will get double than his sister. So~~

~~$\frac{400000}{800000}$~~

~~Son = $\frac{800000}{1600000}$~~

Son gets = 1,12,00000

daughter gets = 4000000

(b)

Q. 7

A)

Solution

price = Rs. 80

He raised price 20% instead to reduce it by 20%

So, we know that

$$\Rightarrow \frac{\%}{100} \times \text{value}$$

$$\Rightarrow \frac{20}{100} \times 80 = 16$$

So, he raised the price Rs. 16

price - 16 = original price

$$80 - 16 = 66$$

So, the original price is

Rs. 66

(7)

B) In a certain code word
BROTHER is written As
QNDGSNQA
Sister?

We know that from the BROTHER

that : Code

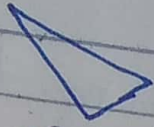
B →	Q	S →	T
R →	D	I →	C
O →	G	S →	T
T →	S	T →	S
H →	N	E →	Q
E →	Q	R →	D
R →	A		

SISTER
TLTSQD

(8)

c) 1) Scalene Triangle

i) Draw



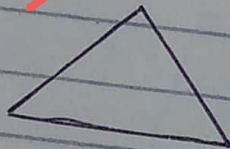
ii) Definition

Different, unequal sides

Scalene is a triangle which has small base and obtuse ~~triangle~~ angle join with the Hypotheneous.

2) Equilateral Triangle

i) Draw

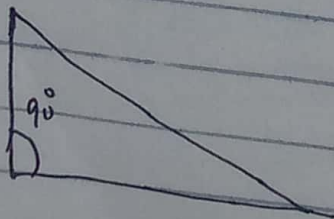


Isosceles: 2 sides equal
Equilateral: 3 sides equal

ii) Definition
equilateral triangle has three equal arms with the angle of 45°

3) Isosceles & Right

i) Draw



ii) Definition

Isoceles is a triangle having equal length of arm and perpendicular form 90° Angle with the base.

PART-II

SECTION-I

Q. 4

a) The causes of Land pollution

i) Understanding land pollution

The waste products that are found throughout the surface of earth, which causes pollution in one way or another in the land is called land pollution.

(10)

ii) What comprises of land pollution.

Land pollution is comprises of of medical wastage, industrial residue, used plastics, Shopping bags and human wastages.

iii) Causes of Land pollution

1) Domestic wastages

Domestic wastages causes land pollution, which consists of all the waste products used by human being and thrown into the ground.

2) Industrial wastage

All the waste products left after the formation of products which are thrown on the surface of land.

E.g

→ The Coacks products.

→ Unused saw materials

→ Splited fossile fuels.

More detail needed

3) Farming wastage

The products which are produced by the field as a secondary.

(11)

products. That are not in the use of anyone. such as; roots of crops pesticides packets and bottles etc.

b) The main goals of COP-27

i) Historical overview to Cop.

The conference on climate change was first held on 1995. After that every year it is happening in the various parts of the world. The conference which was held on 2022 at egypt is called COP-27.

ii) Main goals of Cop-27

1) To reduce Carbon Emission
one of the main agendas of COP-27 was to reduce the carbon emission by 30%.

2) Establish Fund for climate change emergencies.

In Cop-27 it was also agreed by the member countries

How much pledged (12)

that a joint emergency climate change fund should be made. So, any emergency situation or a country vulnerable to climate change should be assisted.

3) Addressing the Pakistan's flood devastations

In August, 2022, Pakistan was badly hit by the flood due to global rise in temperature. That cost to the country \$ 38 bn. While, it needs \$ 86 bn for its recovery. So, it was agreed in Cop-27 to provide to Pakistan an economic assistance.

4) Evaluation in Cop-28

It was also agreed on the conference that the targets which are set by the member countries should be evaluated on the Cop-28. Which are happening in Nov, 2023 at UAE.

(13)

c) The role of GIS on Environmental Science

GIS (Geographic Information System) which collects data about the surface of earth including water. The data then used by the people to trace the place on the earth to where form the houses, forestry areas, glaciers and landsliding threats as well.

d) The fundamentals of Artificial Intelligence

1) Definition of Artificial Intelligence (AI)
AI runs with the help of computers that works like the human Intelligence.

2) The fundamentals of AI.

The principles under which the AI works, are called the fundamentals of AI. Which are given below.

(14)

i) Transparency

AI works with the fundamental principle of Transparency. It provides assistance to the users without any social, gender and race discrimination.

ii) Accuracy

AI provides the information to its users accurate, reliable and authentic. The information which are given to the users are passed from various stages which can be reliable while extracted the faulty data and information.

iii) Emotionless

AI works like the intelligence of human being. But the difference is only that AI do not possess emotions to separate ethics from non-ethics and moral from immoral.

iv) Quick Response

AI provides the required data and information in a very short interval of time.

(15)

Q. 3

a) Cyclone

Cyclone is the flow of wind from higher pressure areas toward lower pressure areas. e.g. The winds from arctic and antartic toward the equator of the earth. where it takes the shape cyclone with its higher speed.

i) Causes of cyclone

There are various causes of cyclone which are given below.

1) Temperature

Cyclone are created due to the temperature difference. The winds flow from colder areas toward the warmer areas and this causes a cyclone.

2) Pressure

Cyclone is always started from a place where the pressure is high toward the lower pressure areas.

(16)

3) Rotation of Earth

Earth revolve from its own axis from west to east. That provides an opportunity to winds and as a result a cyclone is produced.

4) The pull of moon

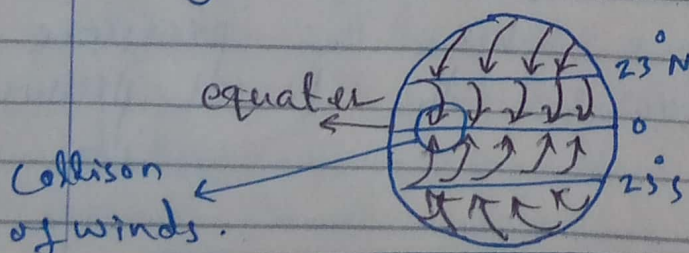
Full Moon create tides in the ocean which carries wind with itself and causes cyclone mostly on the equator region of the earth.

ii) Cyclone winds are strongest and destructive

Eyewall

Cyclone winds are strongest and destructive at the equatorial region of the earth. Because the winds of easterlies and westerlies are collides with one another at the equator region which are the most destructive.

Diagram



(17)

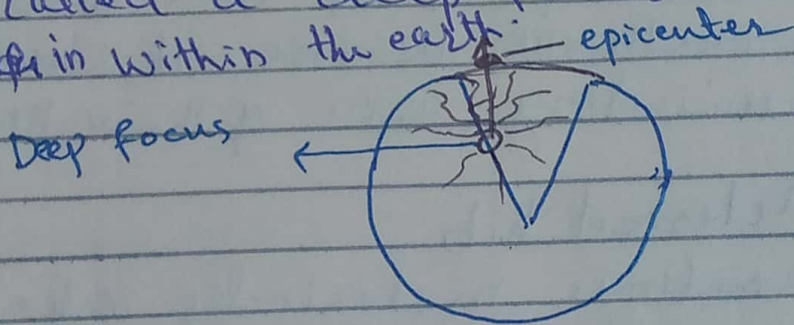
Q.3 (b)

A) Earthquake

The shaking of earth is called earthquake.

B) Deep focus

The place inside the earth from where the earthquake is started is called a deep focus. It is 900 km deep in within the earth.



C) Shallow focus

The earthquake which has less than 70 km deep focus of earthquake is called shallow focus. It is often occurs in the earth crust.

(18)

d) The causes of earthquake

i) Plate Tectonic

Earthquake happens due to the plate tectonic. Plate are in motion, which are moving with 1 inch per 100 years. Plate tectonic are convergence, divergence and collide with one another and that cause the earthquake.

✳

Elastic Rebound theory

ii) Volcanism

The eruption of lava also causes earthquake because it shakes the surrounding area of the volcano.

iii) Meteoroid hits

Sometimes meteoroids also hit the earth from the space and that causes the earthquake.

iv) Anthropogenic Causes.

Sometimes human made cause such as the moving of big vehicles and mass construction also cause earthquake in a small range.

e) Magnitude of Morocco earthquake

6.8 6.9 in magnitude.

(19)

Q.3 (d)

Ionic bond / Covalent bond

- | | |
|--|--|
| i) A bond between metallic and non metallic | A bond between two atoms which share the e^- . |
| ii) One atom gain e^- and the other loss e^- . | No one gain e^- but mutually share e^- . |
| iii) Complete transfer of e^- . | No transfer. |
| iv) example
$Na^+ Cl^-$ | $H-Cl$ |