

PART - II

SECTION - I

Q.5

Ans:

~~and a~~
Population explosion

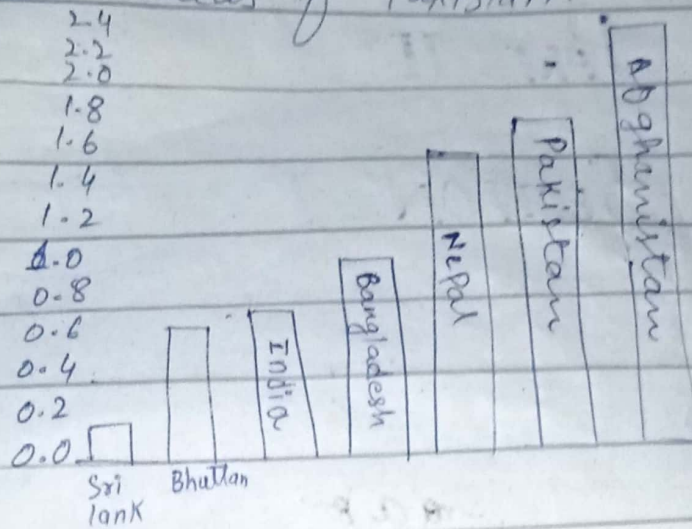
A ticking time bomb of Population explosion threatens Pakistan, joining the league of the world's top five most populous countries, with a staggering 225 million people and counting.

Causes of Population explosion in Pakistan:

1. Lack of family planning:

The lack of sufficient family planning and birth control measures stands as a significant cause of population explosion mainly in

rural areas of Pakistan.



Population Growth rate (Annual %)
in South Asia

Low literacy rate:

The persistently low literacy rate, particularly among women, plays a significant role in population explosion.

Religious beliefs:

Some religious beliefs emphasize the importance of procreation and view children as a blessing and a source of divine favor.

Control measures:

Family Planning and awareness

Programmes:

Pakistan must prioritize

family planning and create awareness about its benefits.

Rural development:

Balancing urban and rural development is crucial to controlling population growth.

Women Empowerment:

When women are educated, financially independent then they can make informed decisions about their reproductive choices.

~~or (b) or~~

Ans:

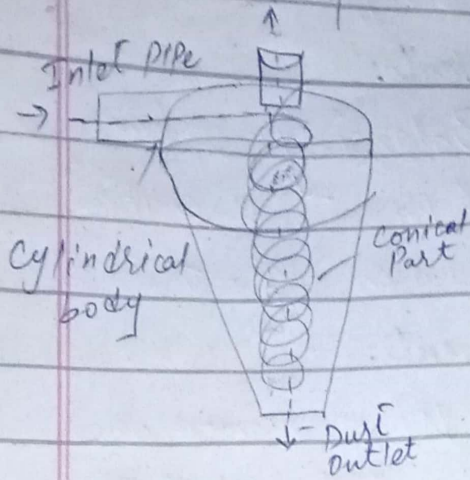
Cyclones

Cyclones refers to a large scale closed circulation system in the atmosphere which combines low pressure and strong winds that rotate counter clockwise in the northern hemisphere

Tornadoes

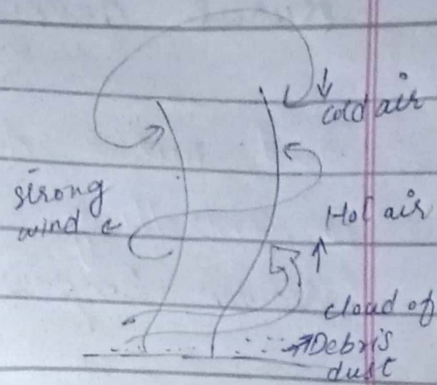
A tornado, is a violently rotating column of air that extends between the Earth's surface and a cloud, usually a cumulonimbus cloud. Most tornadoes

and clockwise in southern hemisphere.



Cyclone - Diagram

usually last for less than ten minutes



Tornado - Diagram

Cyclone which observed in 2024:

Tropical cyclone

Remal struck northeastern India and Bangladesh from May 26-28, causing severe flooding and landslides. In India's northeast, 39 people were reported dead, dozens were missing and significant displacement had occurred. In Bangladesh, the cyclone's aftermath left 16 dead and affected 3.75 million people.

Ans:

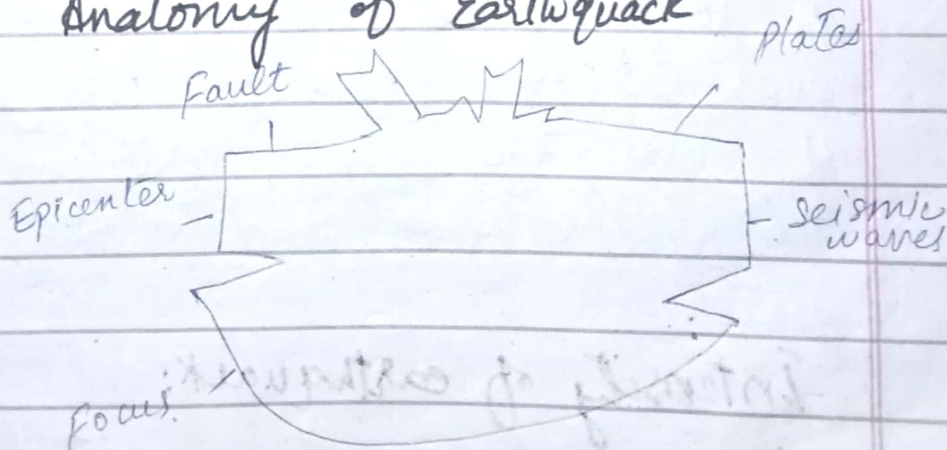
Earthquake

Earthquake is a sudden release of energy in the form of seismic waves that create vibration in the earth crust as a result of abrupt movement of tectonic plates.

How Earthquake occurs:

The surface of the earth is in continuous slow motion. This is plate tectonics. The plates cover the entire surface of the globe. Since they all are moving they rub against each other in some places, sink beneath each other in others, or spread apart from each other.

Anatomy of Earthquake



At such places the motion isn't smooth. The plates are stuck together at their edges but the rest of each plate is continuing to move, so the rocks along the edges are distorted. With an abrupt move, the rock breaks. An earthquake is the shaking that radiates out from the breaking rock.

Cracks along which rock slip are called faults. The location on a fault where slip first occurs is called focus whereas the position directly above the ground surface is epicenter.

Ear Casualties in Turkiye earthquakes

On 6 Feb 2023, a series of earthquakes killed over 55,000 people in Turkiye. It was the worst earthquake the people has seen in 90 years.

Intensity of earthquake:

A magnitude

7.8
After
is 7.

Ans:

point
wh

E

it
is

7.8 earthquake occurred in Turkey.
After nine hours the magnitude
is 7.5.

~~red(d)~~

Ans:

Hypocenter:

Hypocenter is the point where within the earth where an earthquake originates.

~~red(ii)~~

Epicenter:

The location directly above it on the surface of the earth is called the epicenter.

~~red(iii)~~

This is the location within a hurricane where the most damaging winds and intense rainfall is found is called Eye wall of Hurricane.

(iv)

Shallow focus are found within the earth's outer crystal layer. Shallow earthquakes are 0-70 Km deep.

(v)

The parsec is a unit of length used to measure the large distances to astronomical objects outside the solar system.

Q-4:

(c)

Solid Waste management:

Solid wastes are the discarded leftovers of advanced consumer society.

Different methods of SWM:

The activities associated with the management of municipal solid waste can be grouped into:

- a. Collection
- b. Transfer and Transport
- c. Waste disposal

Collection:

Collection includes the gathering and transport of solid wastes and recyclable materials, by means of vehicle, cart or other facility, to the location where the collection vehicle is emptied.

Collection is carried out through two stages:

Primary collection:

The means by which solid waste is collected from its source and transported to communal stations.

Secondary collection:

The collection of solid waste from communal to disposal site.

Transfer and Transport:

The transfer

Transport of solid waste involved two steps:

- (i) The transfer of waste from secondary collection point to larger transfer point.
- (ii) The subsequent transport of the waste, usually over long distances

Waste Disposal:

Disposal is the process of final placement of solid waste with recycling in a landfill. Landfill is a safe disposal of waste.

Most favoured option

Reduce

Reuse

Recycle

Recovery

Landfill

Least favoured option

(b)

Ans:-

(i)

Anaemia occurs when there is not enough haemoglobin in the body to carry oxygen to the organs and tissues. It mainly affects women and children.

(ii)

Appendicitis is inflammation of the appendix. This is a finger-shaped pouch that is in the colon on the lower side of the belly, also called abdomen. In most people, pain begins around the belly button and then moves

SECTION - II

Q.7

(a)

Sol:

Given:

$$\text{Radius} = 30\text{cm}$$

$$\text{height} = 1 \text{ m}$$

Required:

$$\text{Volume of a cylinder} = ?$$

$$\begin{aligned} \text{Volume of a cylinder} &= \pi r^2 h \\ &= \frac{22}{7} \times (30)^2 \text{ cm} \times (1) \text{ m} \end{aligned}$$

$$\therefore 30 \text{ cm} = \frac{30}{100} = 0.3 \text{ m}$$

$$= \frac{22}{7} \times (0.3)^2 \times 1$$

$$= \frac{22}{7} \times 0.09 \times 1$$

$$= \frac{1.98}{7}$$

$$\boxed{V = 0.282 \text{ m} \text{ Ans}}$$

(b)

Sol:

The average age of three boys = 15y

Ratio = 3:5:7

Age of the youngest boy = ?

Ratio = 3:5:7

$$3+5+7 = 15$$

$$\text{Age of 1st boy} = \frac{3 \times 15}{15}$$
$$= 3 \text{ years}$$

$$\text{Age of 2nd boy} = \frac{5 \times 15}{15}$$
$$= 5 \text{ years}$$

$$\text{Age of 3rd boy} = \frac{7 \times 15}{15}$$
$$= 7 \text{ years}$$

Hence, the age of youngest boy = 3 years

(iii)

8, 19, 52, 151, 447

$$8 \times 3 - 5 = 19$$

$$19 \times 3 - 5 = 52$$

$$52 \times 3 - 5 = 151$$

$$151 \times 3 - 5 = 448$$

So, in place of 447 it will be 448.

(iv)

11, 13, 17, 19, 23, -

$$11 + 2 = 13$$

$$13 + 4 = 17$$

$$17 + 2 = 19$$

$$19 + 4 = 23$$

$$23 + 2 = 25.$$

So, the number is 25 **Aus:-**
