

PART II. SECTION - I.

Q no 2:

KEY FEATURES OF COP28 IN CONTEXT OF LOSS AND DAMAGE FUND:

V good for math portion

Enough length

Enough headings

Draw diagrams

COP28 is an opportunity to identify global solutions to limiting global temperature rise to 1.5 degrees, helping vulnerable communities adapt to the effect of climate change, and achieving net-zero emissions by 2050.

- 1) COP28 climate summit saw the first big breakthrough: agreement on a "Loss and Damage" fund to compensate poor states for the effects of climate change.
- 2) The agreement means wealthy states and major polluters will put millions of dollars towards a fund that will in turn distribute funds to poor states harmed by climate change. The fund will be administered by the **WORLD BANK**. Initial commitments amount to **US\$430** million.
- 3) Rich countries have pledged **\$655.9** million into the fund so far, though hundreds of billions of dollars are needed per year.

4) Civil society groups, particularly those from the global south, have long advocated for climate finance to directly reach the vulnerable and marginalized people and communities that are most in need, and for locally led action: to give affected people autonomy and decision-making power over how funds are used.

5) Germany also pledged \$100 million, while the European Union committed to \$245.39 million, Britain promised at least \$51 million, and the US agreed to give \$17.5 million.

OTHER FINANCIAL ISSUES OF DEVELOPING COUNTRIES:

1) Due to climate change most of the developing countries are facing severe weather climatic conditions. Countries like Pakistan, India, Bangladesh are facing severe consequences of climate change.

2) As, floods of 2022 and heavy torrential rains in Pakistan cause severe destruction to economy and loss of infrastructure. Country like Pakistan is also facing other issues like economic instability and such climatic condition exacerbate the potential issues due to climate change in long run.

3) The other consequence of these extreme weather conditions is it causes food shortage in the country. Country like Pakistan loss most of its agricultural land area under flood and still not recovered.

4) The Economy disruption due to these climate led-disaster effect developing countries to great extent. Most of the countries recover very slowly and badly effect with these events.

Q no 2 (b)

SOLID WASTE MANAGEMENT:

"Solid wastes are discarded leftovers of our advanced consumer society. This growing mountain of garbage and trash represent not only an attitude of indifference toward valuable natural resource, but also a serious economic, and public health problem."

Solid waste management involves the collection, transportation, disposal and recycling of solid waste to minimize its impact on the environment. Several methods are employed for effective waste management:

1. LANDFILLING:

- a) * It is common and cost-effective method.
- b) * It involves burying waste in designated land areas.
- c) * It requires proper planning to prevent environmental pollution.

2) INCINERATION:

- a) It involves burning waste at high temperature.
- b) It reduces waste volume and generates energy.
- c) It requires advance technology to control emissions.

3) COMPOSTING:

- a) It is a process in which decomposition of organic waste by microorganisms.
- b) It produces nutrient rich compost for soil enrichment.
- c) It is ideal for managing kitchen and yard waste.

4) RECYCLING:

- a) It involves collecting and processing material for reuse.
- b) It reduces the demand for new resources.
- c) It includes common material include paper, glass, plastics and metals.

5) COLLECTION AND TRANSPORTATION:

- a) It include efficient system and transportation system.

- b) It regulates waste pickups prevent littering and maintain hygiene.
- c) Optimal routes and vehicle maintenance contribute to effectiveness.

Qno 2 (c).

BALANCE DIET:

"A balance diet is a diet which includes right amount of all the nutrients such as proteins, vitamins, minerals, fats carbohydrates etc. for proper growth development and normal functioning of the body"

COMPONENTS OF BALANCE DIET:

- i) **CARBOHYDRATES:** They are our main source of energy.

SOURCES:

Grains, fruits, vegetables, Nuts and seeds.

- ii) **PROTEINS:** They are essential for growth and development of muscles.

SOURCES:

Eggs, fish, Meat, dairy products.

- iii) **FATS:** They are source of energy and important in relation to fat soluble vitamins

SOURCES:

Oils, Nuts and seeds, Avocado, Eggs

iv) **VITAMINS:** They play important role in many chemical processes in the body.

SOURCES: carrot or vegetables, Egg, fish, dairy products, egg yolk, seeds.

v) **MINERALS:** They are inorganic elements occurring in the body. They are critical to body's normal functioning.

SOURCES: Banana, orange, potato, tomato, fish muls,

vi) **WATER:**

65-75% of the human body is water.

vii) **DIETARY FIBRE:** The fibrous indigestible portion of our diet is essential to health of the digestive system.

SOURCE: cereals; whole grains, fruits, root vegetables.

A balanced diet is required for the growth and development of a person. A young boy of 15 requires more calories or energy than an adult man who does not do heavy work. Similarly lactating mothers requires high energy and high protein diet for good lactation.

Qno 2(d)

RENEWABLE ENERGY RESOURCES UNDER CPEC:

CPEC is a major infrastructure project that includes various components, and renewable energy is a significant focus within this initiative. Some of the renewable energy resources under CPEC include:

1) SOLAR ENERGY:

- Several solar power projects have been initiated under CPEC in different regions of Pakistan. These projects aim to harness solar energy to generate electricity, contributing to the country's energy sector.

SOLAR ENERGY PROJECTS UNDER CPEC:

- 1) Qaid-e-Azam Solar Park (Bahawalpur)
- 2) Suleken Solar Power Project.
- 3) Thimpir Power Limited (TPL).
- 4) Quetta Solar Power Project.
- 5) Sindh Solar Energy Project.

2) WIND ENERGY:

Wind power projects have been established to harness the wind energy potential in Pakistan. Wind farms are set up to generate electricity and enhance the share of renewable energy in the national grid.

WIND ENERGY PROJECTS IN PAKISTAN UNDER CPEC:

- 1) Sachal Wind Power Project
- 2) Dabarki Wind Power Project
- 3) Three Gorges Second and Third Wind Power Project
- 4) Master Wind Energy Limited

3) HYDROPOWER:

Pakistan has a considerable hydropower potential and CPEC includes projects focused on harnessing hydropower sources. Dams and hydro-electric power plants are being developed to generate clean energy.

HYDROPOWER PROJECTS IN PAKISTAN:

- 1) Diamer - Bhasha Dam
- 2) Phasli Hydro power Project
- 3) Azad Pattan Hydro power Project
- 4) Kohala hydro power project

4) GEOTHERMAL ENERGY:

While geothermal energy projects are not as widespread as other renewable sources, there have been discussions about exploring geothermal potential in certain regions.

Qno 3(a).

EYE: The human eye is a complex organ with various components working together to enable vision.

DIFFERENT PARTS OF EYE:

1. CORNEA:

The transparent outermost layer of the eye that covers the iris and pupil.

→ It helps in focusing light onto the retina.

2. IRIS:

It is the colored part of the eye that regulates the size of the pupil.

• Adjust to control the amount of light entering the eye.

3. PUPIL:

The black circular opening in the center of the iris.

It regulates the amount of light entering the eye.

4. LENS:

It is transparent, flexible structure behind the iris.

It focuses light onto the retina by changing its shape.

5. RETINA:

- It is the innermost layer of the eye, containing photoreceptor cells (rods and cones)
- It converts light into electrical signals for the brain to process.

FAR-SIGHTEDNESS:

- Far-sightedness, or hyperopia, is a common vision condition where distant objects are seen more clearly than close ones.
- It's typically caused by the eyeball being too short or the cornea having too little curvature.
- Eyeglass or contact lenses with a positive prescription can help correct this vision issue.

CORRECTION:

- 1) It can be corrected using eyeglasses or contact lenses.
- 2) These corrective lenses have a positive prescription, which helps to focus incoming light directly onto the retina, compensating for the shorter eyeball length or insufficient corneal curvature associated with hyperopia.

SHORT-SIGHTEDNESS:

Short-sightedness, or myopia, is a common vision condition where close objects are seen more clearly than distant ones. It occurs when the eyeball is too long or the cornea has excessive curvature, causing

light to focus in front of the retina; ~~with the use of~~
directly on it.

CORRECTION:

- 1) It can be corrected through the use of eyeglasses or contact lenses.
- 2) These corrective lenses have a negative prescription, which helps to diverge incoming light and bring the focal point back onto the retina.

Q no. 3b)

KIDNEY:

Kidney play a crucial role in maintaining the body's internal balance. Here's a simplified explanation of how a kidney work.

1. Filtration:

- Blood enters the kidneys through renal arteries
- Within each kidney, it goes through tiny filtering units called nephrons.

2. Reabsorption:

- 1- The filtrate then moves through tubules where essential substances like water, glucose, and ions are absorbed back into the bloodstream
- 2- This process ensures that the body retains necessary components

3- Secretion:

Some additional substances are actively secreted into the filtrate helping to eliminate more waste and maintain proper support.

4- FORMATION OF URINE:

The remaining fluid after reabsorption and secretion become urine. It flows through the collection ducts and into the renal pelvis.

Q no 3 (d).

ISOTOPES:

Isotopes are variants of a chemical element that have the same number of protons but different numbers of neutrons in their atomic nuclei, resulting in different atomic masses.

Hydrogen has three isotopes:

i) Protium

one proton
No neutron

ii) Deuterium

one proton
one neutron

iii) Tritium.

one proton
two neutron

ISOBARS:

These are lines on map connecting points having the same atmospheric pressure at a given time or on average over a given period.

ISOBARS:

Isobars are atoms of different chemical elements that have the same total nucleon number, meaning they have the same num of prob.

ISOTONES:

Two nuclides are isotones if they have the same neutron number N , but different proton number Z .

SECTION II,
Q 6 (a)

Date:

$$\text{Father's age} = F.$$

$$\text{Son's age} = S.$$

After 5 years

$$\text{Father's age} = F - 5.$$

$$\text{Son's age} = (S - 5)$$

Father's age is thrice the son's age.

$$F = 3S$$

$$F - 5 = 3(S - 5)$$

$$F - 5 = 3[(30) - 5]$$

$$F - 5 = 3(25)$$

$$F - 5 = 75$$

$$F = 75 + 5$$

$$F = 80$$

Father is 80 years old now.

Q no 6 (b).

Mean of 30, 10, Y and 50 is 50.

value of Y = ?

$$10 + 30 + Y + 50 = 50$$

$$\frac{90 + Y}{4} = 50$$

$$90 + Y = 50 \times 4$$

$$90 + Y = 200$$

$$Y = 200 - 90$$

$$Y = 110$$

Q no 6 (d).

$$\text{If } A \times B = 320$$

$$A = B - 1 = 5$$

$$A^2 - B^2 = ?$$

$$B = 5A$$

$$\text{If } A = B$$

$$B = 5(B) \Rightarrow B = 40$$

$$B = 40$$

$$B \times 40 = 320$$

$$B^2 = (40)^2$$

$$B^2 = 1600$$

$$1536$$

Qno 6 (c).

9)

2, 6, 18, 54, 162.

 $(5)^5$ $(4)^4$ $(3)^3$ $(2)^2 (1)^2$

3125,

256,

27, 4, 1

