

Ques  
General Instructions

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.

## CAUSES OF LAND POLLUTION

Definition:  
Land Pollution can be defined as any unwanted change in land which can harm biodiversity of earth is called land pollution.

### Causes of Land Pollution:

#### (1) Use of Fertilizers in the land

The use of fertilizers can pollute the land and cause land pollution. In the fertilizers there are many chemical substance which change the "PH" of soil. The prolong<sup>ed</sup> use of fertilizers may cause loss of many useful chemical nutrient, as a result, soil become sterile and hard. Therefore, use of fertilizers can cause ~~lotto~~ Land Pollution.

#### (2) Use of Pesticides.



Date: \_\_\_\_\_

The use of Pesticides can induce land Pollution. Pesticides contains very harmful substance or chemicals which are not feasible for soil. These chemical can kill pest which is desired result, but may make soil poisonous that is undesired result, Thus, use of pesticides may cause land Pollution

### (3) Dumping Electronic Waste in Social :

Land can be polluted, if Electronic waste is dumped in the landfills. As electronic appliances contain may harmful elements such as, mercury which result in land pollution.

### (4) Poor Waste Management:

Poor Waste Management is an important factor in land pollution. As consumerism is increased, the huge number of waste is produced. If this waste is not treated well and dumped untreated in the land, it causes the degradation of soil.



(b)

## Main Goals of COP-27.

⇒ Recently COP-27 was held in Glasgow, Scotland. It was held in context to climate change. Its main goals are mentioned below.

### (1) Reduce global temperature:

According to UNFCCC (United Nations Framework Convention for Climate Change) global temperature will increase 2-3°C till 2050. This increase in temperature has deteriorating effects on the Earth. Therefore, COP-27 has proposed efforts to reduce temperature to below 0.8°C.

### (2) Reduce CO<sub>2</sub> in the Atmosphere:

The main cause of temperature increase is CO<sub>2</sub>, So COP-27 has recommended to cut carbon-foot-prints to zero by 2050.

### (3) Provide funds to climate hit underdeveloped countries:

The COP 27 provides a just environment



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for underdeveloped countries who are hardly hit by climate change and contribute only 5% according to (IPCC). Therefore, COP-27 binds countries to establish funds for underdeveloped countries.

#### (4) COP-27 Encourage Renewable Energy :

All types of non-renewable energies (Coal, natural gases) are producing CO<sub>2</sub> and pollution. The COP-27, therefore, has encourage transformation from non-renewable energy means to renewable energy means.

#### Conclusion :

The above mentioned goals are of COP which enforces countries to make legal frameworks which reduce emission of gases.



(C)

## The Role of Global Information System in Environmental Sciences

### Introduction:

Global Information System (GIS) is a technology which can help scientists to gain information remotely using sensors, computers and analytical tools.

### The Role of GIS in environmental Sciences

#### (1) Study of Topography.

Topography is study of soil texture. Scientists want to study the topography of mountains, valleys, forests and many other place where human access is challenging task. With the help of GIS information from these terrains is possible without going physically. Therefore, Scientist use GIS in topography.

#### (2) GIS role in Prediction:

GIS can be used in prediction of environmental phenomenon. The 21st century challenges are food insecurity, climate impact assessments and water availability. The use of GIS can help to predict these challenges. For example, using GIS, scientist can study the agricultural crop and yield in that year. on that information basis scientists can predict the food security and insecurity.

### (3) Environmental Research and Development by GIS :

Environmental science is more relevant today than in past due to climate change. In this regard, the Environmental Science lacks knowledge in many field. With the use of GIS 24/7 scientist can observe environment and make analysis. Thus, GIS plays role in research and development.

Diagram?



Q5

(a) "Structure and Functions of Human Ear"

"Structure of Human Ear AND FUNCTION of Human Ear"

The human ear consist of three parts, which are given bellow.

(a) Outer <sup>part</sup> of Ear

The outer part of ear exists externally to internally. It consists of ear "pinna" and duct which runs into ear.

Function:

This part of ear play important role in collecting and receiving sound waves, after receiving it sends <sup>the</sup> waves into middle ear.

(B) Middle Part of Ear:

After outer part of ear, then comes "middle part" which consist of long tube and at the end there is ear drum present.



## Function of Ear Drum:

At the end of ~~ear~~ middle layer, there is ear drum. When sound waves strike the ear drum it change them into vibration, which are transmitted to sensory parts of ear.

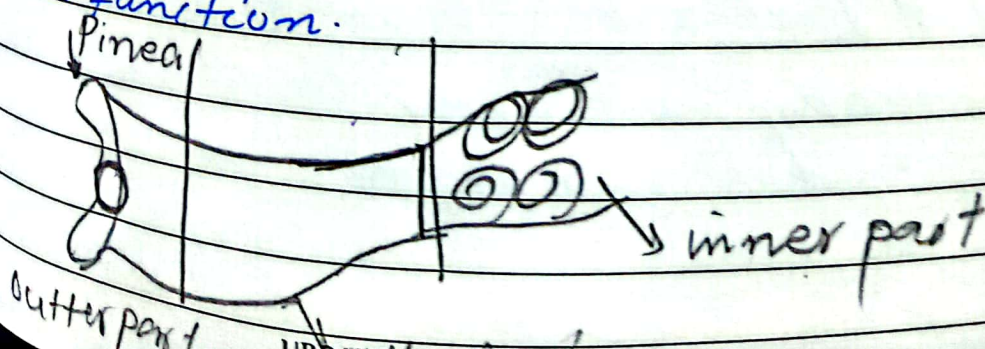
## (C) Inner Part of Ear:

Inner part is the last part of ear. It consists of ~~the~~ "cochlea" which is snail like part. This part (cochlea) has sensory cells.

## Functions

(1) The cochlea consists of sensory neurons which receive message and transmit it towards brain by "auditory nerve". In brain sensory information is processed and sense of hearing is felt.

(2) In inner ear, here is another function, which is measurement of position of and movement of body. The fluid present in inner ear part perform this function.





(B)

# Digestive System and

## Small Intestine

⇒ Definition of Digestive System:

Digestive system of body is among vital life sustaining processes which function to convert large, complex <sup>and</sup> insoluble food nutrients into smaller and soluble food nutrients.

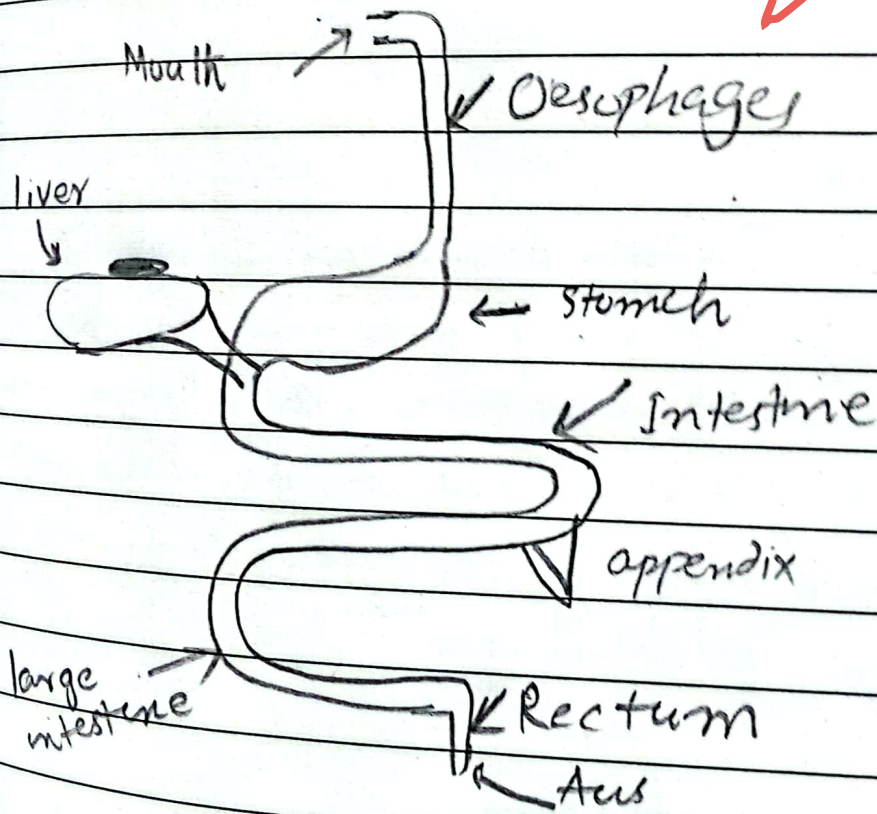
## Role of Small Intestine

(a) It receives fluids from liver and pancreas. These fluids take part in digestion.

(b) It further breakdown the food which is already went under breakdown process in stomach and mouth.



(C) Second brain of body is small intestine because it has complex functions such as absorption of some amount of water, releases of hormones, enzymes, ~~etc~~ and establish mutual symbiosis with ~~to~~ micro-organism.



## (C) Vitamins

### (1) Definition:

The vitamins are biomolecules which acts as a biocatalyst i.e. maintain and regulate metabolic reactions. The vitamin word is derived from vitam which means vital.

### (2) Function:

It is act as biocatalyst in the reaction. It may boost or slowdown the chemical reaction. They ~~are~~ are not consumed in reactions. They differ from enzyme by chemical composition and scope of function.

### (3) Types of Vitamins:

(a) Water soluble Vitamins: i.e. B, C.

(b) Fat Soluble Vitamins: i.e. A, D, K.

### (4) Diseases:

The absence of vitamins can create diseases such as Deficiency of Vit. D



(2) Function of Pituitary Gland

⇒ Pituitary gland is called master of all glands as it produces many hormones and controls body function.

(a) Stimulate Ovary:

Pituitary gland secretes hormone which acts as stimulatory chemicals and stimulate ovaries. After stimulation ovaries produce estrogen and progesteron.

(b) Stimulate Mammary glands.

(c) Fight or flight mode.

Q.8 (C)

Data

Men<sub>1</sub> = 50

Days<sub>2</sub> = 40

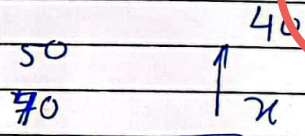
Men<sub>2</sub> = 70

Days = x

Solution.

Formula:

Men : Time



50 : 70 :: x : 40

50 x 40 = 70 : x

$$x = \frac{50 \times 40}{70} = 28 \text{ days}$$

28.5 days

