

## GSA

Q: 4A. What is Hepatitis? Explain its causes, symptoms and prevention.

### Hepatitis

Hepatitis is an inflammation of liver. It occurs due to poor sanitation, eating food with dirty hands, and unhealthy eating. As liver is the chief component of human body, so any mishappening in it can lead to severe consequences. It is of three major types <sup>Hepatitis</sup> A, B and C.

### Causes of Hepatitis:

Hepatitis is caused due to multiple factors such as:

- Unsanitary habits.
- Eating too much unhealthy food or junk food.
- Drinking contaminated water.
- Contact with the infected person
- Contaminated blood transfusions via needles or other tools.



## Symptoms of Hepatitis:

Hepatitis patients show different symptoms which include:

Fever, cough, yellowing of skin and in severe case jaundice and diarrhoea are always the symptoms of hepatitis.

## Preventive Measures:

As it is a viral infection, so some preventive measures include

- Avoiding contact with the infected person.
- Drinking more clean water.
- Keeping a check on sanitary habits, washing hands before eating and clean eating.

Qub. Elaborate a few methods of food preservation.

Food is preserved in various ways which include:



1. **Freezing:** Freezing foods on a temperature of  $1-4^{\circ}\text{C}$  can preserve them from bacterial contamination. Moreover, preserving foods for on more than  $-18^{\circ}\text{C}$  can help them to be stored for more than a year.

2. **Drying:** Drying fruits, vegetable or other condiments can save them from risk of pathogens or bacteria. This increases the shelf life of fruits.

3. **Salting:** Salt serves as an <sup>anti</sup>preservative for foods, thus they can be stored for longer time.

4. **Pickling:** Pickling is an effective method of food preservation, where it is mixed with various spices to increase its life, flavour and odour. For example: mango and amla.

5. **By adding certain chemicals:**  
Food can be preserved by adding



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certain chemical i.e tartaric acid, benzoates etc which increases its storage life and is preserved for a long time.

Q4 c. ✓ Explain fertilizers. What are their types.

### Fertilizers

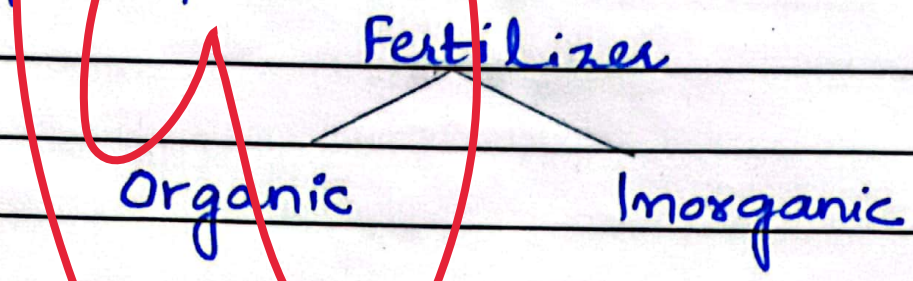
Fertilizers are the materials that are added to soil to increase crop yield. They are added to soil to increase its fertility, to yield more production and to reduce the risk of pests and other bacteria to invade the crops or fruits and decrease their production.

Fertilizers may include fungicides (to kill fungi), pesticides (to kill pests), weedicides (to kill weeds), nematocides (to kill nematodes) and other types



of herbicides to damage the crops.

### Types of Fertilizers:



⇒ Organic fertilizers: Organic fertilizers are ones that are made up of plants & animal waste. They include manure and compost which are helpful for soil fertility.

→ Inorganic fertilizers: These are the fertilizers <sup>which</sup> are put in fields that prevent insect invasion on crops. They include insecticides and other pesticides.

Q: What is the anatomy of a human teeth?

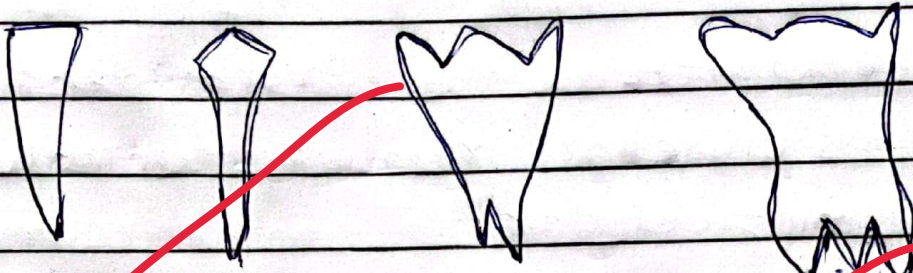
### Human Teeth.

Human teeth is the hardest bone in the human body.



There are four types of teeth:

- 1- Incisors
- 2- Canines
- 3- Molars
- 4- Premolars.



Incisor      canine      premolar      molar

There are 8 incisors, 4 canines, 8 molars and 8 premolars.

- **Incisors:** They are flat and are located at the front of mouth.

They help in cutting and biting of food.

- **Canines:** They are pointed and sharp that help in tearing and gripping food.

- **Molars:** Molars are broad and are located at <sup>the</sup> back of mouth. They help in grinding and crushing.

- **Premolars:** They are present behind canines. They are used for crushing and grinding food.



Q5 a. Differentiate between a eukaryotic and a prokaryotic cell.

### Eukaryotic

- Eukaryotes are always unicellular or multicellular.
- Nucleus is present in them.
- The cell organelles are always membrane bound.
- They have a large size.
- Examples include: plant and animal cell

### Prokaryotic

- Prokaryotes are always unicellular.
- Nucleus is absent in them.
- The cell-organelles are without membranes.
- They are small and simple.
- Examples include bacteria.

Qb. What is global warming? What is Kyoto Protocol?

### Global Warming:

The increase in the global temperatures on the



planet Earth due to addition of greenhouse gases is termed as global warming.

### Causes of global warming:

Due to various human activities the temperature of earth is rising.

This is due to the emissions of harmful gases and chemicals which include  $\text{CO}_2$ ,  $\text{CH}_4$ ,  $\text{CO}$ ,  $\text{SO}_2$ ,  $\text{NO}_2$  and various others cause the Earth's temperature to increase. According to IPCC Energy sector releases 35%

emissions, agriculture sector 25%, Industrial sector ~~21%~~ 21% and Transport sector 15%.

They pose a threat to the living creatures on Earth.

### Kyoto Protocol:

The Kyoto Protocol is a protocol to the United Nations Framework Convention on Climate Change (UNFCCC) aimed to combating



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Global Warming.

It was adopted in 1997 with an agreement to reduce carbon emissions (CO<sub>2</sub>) emissions of 5.2% from 1990 levels by the year 2012.

Its main purpose was the reduction of greenhouse gas emissions.

d. Briefly describe antioxidants.

### Antioxidants

Antioxidants are added to food to prevent oxidation. It prevents rancidity and colour change of the food.

Antioxidants are added to food because they maintain food quality i.e. its freshness and colour.

They neutralize free radicals and also protect oils and fats from oxidation.

Their examples include Vitamin C, BHA etc.



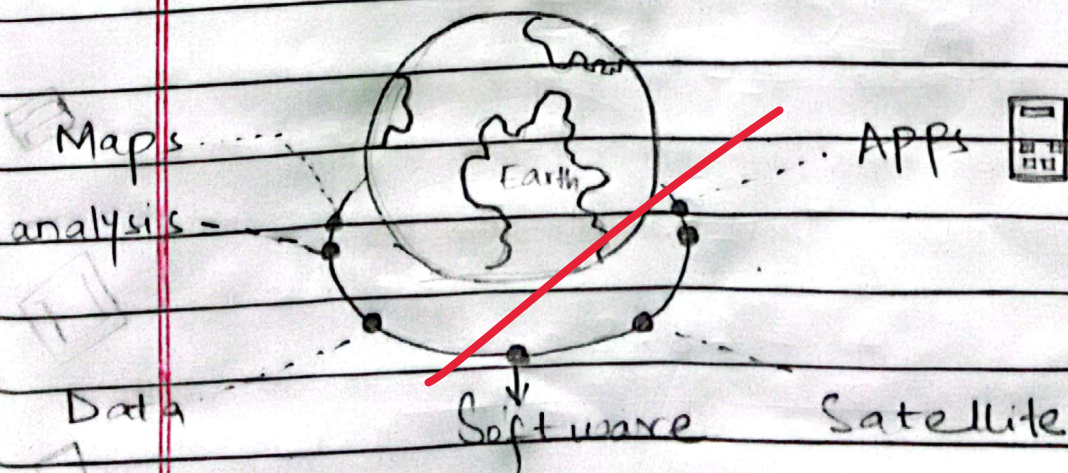
c. Write a detailed note on GIS.

## GIS:

GIS stands for Geographic Information System, which is a system computer that uses hard ware and software. It is used for mapping and supporting geographic based decision making in many areas such as:

Environment, disasters, tourism and urban planning.

It uses data that attached to a specific location and provide geographically referenced information.





## Section II

QNO: 6

C.

Given:

Soln diameter =  $d = 6 \text{ cm}$ 

Circumference = ?

Area = ?

$$\text{Circumference of circle} = C = \pi d$$

$$= \frac{22}{7} (6)$$

$$= \frac{132}{7}$$

$$C = 18.8 \text{ cm}$$

$$\text{Area of circle} = \pi r^2$$

$$= \frac{22}{7} r^2 \rightarrow \textcircled{1}$$

$$\therefore r = d/2 = 6/2 = 3$$

again in eq  $\textcircled{1}$ 

$$\textcircled{1} \Rightarrow = \frac{22}{7} (3)^2$$

$$= \frac{22}{7} (9)$$

$$A = 28.3 \text{ cm}^2$$



d. i) 13, 24, 46, 90, 178, ? 354

1      22      44      88      176

To continue with it, the next difference in the increasing pattern would be 354 after multiplication.

ii 5, 6, 9, 14, 21, ? 32

+1    +3    +5    +7    +11

As the series is following a prime number series order, so the next number would be 32.

Q6 a. Let 3 digits be a, b, c.

$$a + b + c = 15 \rightarrow (1)$$

Sum of 10 and unit digit is 12

$$b + c = 12 \rightarrow (2)$$

difference is 2

$$c - b = 2$$

$$c = 2 + b \rightarrow (3)$$

Substituting (3) in (2)

$$b + 2 + b = 12$$

$$2b + 2 = 12$$

$$2b = 12 - 2 = 10$$

$$b = \frac{12}{2} \quad 2b = 10$$

$$b = 10 \quad b = \frac{10}{2} = 5$$



putting (b) in (2)

$$b + c = 12$$

$$5 + c = 12$$

$$c = 12 - 5$$

$$\boxed{c = 7}$$

Now for (a)

$$1 \Rightarrow a + b + c = 15$$

$$a + 5 + 7 = 15$$

$$a + 12 = 15$$

$$a = 15 - 12$$

$$\boxed{a = 3}$$

Q7. a. IQ

1- It is called Intelligence Quotient.

2- It measures a person's problem solving skills and reasoning.

3- It helps in analyzing complex problems

EQ

1- It is called emotional quotient.

2- It measures a person's emotional intelligence and social skills.

3- It is helpful in collaborative tasks.



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b.	P	Present	Future
		$A = ? \quad x = ?$	$x + 20 = 10(x - 10)$

$$x + 20 = 10(x - 10)$$

$$x + 20 = 10x - 100$$

$$x - 10x = -100 - 20$$

$$-9x = -120$$

$$x = \frac{120}{9}$$

$$x = 13.3$$

$$x + 20 = 10(x - 10)$$

$$x + 20 = 10x - 100$$

$$x - 10x = -100 - 20$$

$$-9x = -120$$

$$x = \frac{120}{9} = 13.3$$

Aman's present age is 13 years.

c. Peter's time = 40 m

John's " = 60 m

Total time = ?

It will take

120 mins to

clean the lawn.

120	2	40 - 60
	10	20 - 30
	2	2 - 3
	3	1 - 3
		1 - 1



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d. let  $x$  be the number

$$x \times \frac{5}{3} = \frac{5x}{3}$$

the incorrect multiplication,

$$x \times \frac{3}{5} = \frac{3x}{5}$$

$$\text{Error} = \frac{5x}{3} - \frac{3x}{5}$$

$$= \frac{25x - 9x}{15} = \frac{16x}{15}$$

$$\therefore \text{age error} = \frac{16x}{15}$$

you can edify by presenting it in  $\frac{16x}{15} \times 100$

more fascinating way. such as  $\frac{5x}{3}$   
diagrams, clearly labeling it.

creating heading and sub  
headings and then explain it a

little. following the standard  
method for maths portion with

accurate calculations. and good  
use of marker can help you in

earning good grades.

$$= \left( \frac{16 \cdot x \cdot 3}{15 \cdot 5} \right) \times 100$$

$$= \frac{48}{25} \times 100$$

$$= 192\%$$

The Percentage error is 192%



