Mock GSA

Q4

(a) Hepatitis

Hepatitis is a disease caused by the inflammation of liver. It leads to liver not able to perform its digestive action due to the release of extra chemicals.

Causes

* It can be caused by cases of germs and feaces inside the body
* It can be caused by used blood syringes and used safety for shaving
* It is also caused by sexual transmissions for an already disease patient of Hepatitis
* It has 4 types. Hepatitis A, B, C, D,

Symptoms

* Swelling of liver and stomach aches

* Food digestion problems
* Nausea and aches
* Weakening of body and loss of body weight.

Prevention

* Careful intake of diet and clean hygienic water.
* Safe use of medical syringes for blood testing and injections
* Careful use of safeties to share and not to share ~~one~~ safeties with each other.

(b) Methods of Food Preservation

There are many methods that can be used to preserve food to increase its shelf life and usage. Some of the methods are as follows

① Adding Preservatives:-

By adding food preservatives

in food (like can)* can help improve their shelf life Preservatives are usually added in canned products including fruits and vegetables to increase the lifespan of their usage

(2) Freezing

By freezing food items like meat and cooked food can increase their (life) time span for usage. Freezing food items in below 0°C helps them for rotting and & preserve them for getting exposed the ~~tay~~ germs present in the environment.

(3) Drying

By drying the food items either in sun or in heat can help increase the shelf lives of these product. Usually dry fruits

are preserved by drying them in the sun. It takes away the moisture from the food and its ability to get attacked the abnospheric germs. Thus the food items remain preserved.

(6) Fertilizers

Fertilizers are materials that are added in the soil and crops to improve their growth or to fasten the process of their growth. These are essential nutrients needed by soil to enhance the crops production. Soil usually require Nitrogen, Phosphorous and Pottassium for the healthy growth of crops.

* Some fertilizers are naturally present in the soil. Such soils are abundant in nutrition and produce

healthy crops.

* Some nutrients are lacking in the soil that need to be added manually to support the production of crops. (~~and~~ fr)

Types

(1) All in one fertilizers:

These fertilizers have all the essential nutrients needed by the soil for crop production. They include Nitrogen, Potassium and Phosphorous

Example

Zarkhaiz by Engro fertilizers

(2) Specific Nutrient Fertilizers:

These fertilizers are targeted and possess only the ~~essent~~ nutrient needed by the crop or soil. They have specific nutrients

Example:-

* Nitrogen fertilizers will only provide nitrogen to the soil.
* Phosphorous fertilizers add phosphorous to the soil. Similarly Potassium fertilizers only add potassium to the soil.

Thus these fertilizers are nutrient specific and can be added according to the requirement.

d) Anatomy of a Human Tooth :-

Human teeth are made up of Calcium. There are 32 teeth in the mouth of a human being. There are various types of teeth such as canines. Teeth are used for chewing food and breaking them into smaller bits to allow them to pass through the oesophagus

The teeth allow the breakdown of food into smaller pieces along with the help of saliva present in the mouth.

Q3 Tsunami

A Tsunami is a storm that erupts in the sea. It is a storm of water that starts from the sea and moves towards the coastal areas and sometimes enter the cities.

How is it generated?

A Tsunami erupts in the seas water when an earthquake occurs under the sea. When the land below the sea experiences movements in the plates, earthquake erupts in sea beds leading to the eruption of a storm beneath the sea. This

storms takes the shape of a Tsunami over the sea surface and creates havoc and destruction due to its speed and might: The sea water moves very rapidly and creates very big waves that hit the coastal area with full might. The water enters the cities and destroys buildings and infrastructure claiming ~~lives~~ human lives along with it.

Examples

* Katrina Tsunami is one of the most historical one that erupted in recent times.
* Another Tsunami occured in the coastal areas of California in USA and led to massive destruction and deaths of human life and wildlife.

c) Environmental Pollution:-

Environmental pollution means deteriorating the environment by adding pollutants in the environment by human activities. The environment gets polluted due to the release of pollutants and creates harmful effects on the environment. It is the worsening of the human environment by the excessive release of pollutants in the atmosphere and it is due to the excessive human activities.

* It is caused by the release of excessive CO_2, N, S in the environment
* The release of smoke from vehicles and chimneys also plays its role in environmental pollution.
* The release of chemical into water streams and ocean from factories leads to extreme pollution

in the environment.

Effects of Environmental Pollution:

There are many harmful effects of environmental pollution which are as follows

1) It leads to ozone depletion and causes green house effect, leading to the increase in the atmospheric temperature
2) It harms the marine life and sometimes proves fatal for the marine animals due to the presence of deadly toxic fumes and chemicals in the water.
3) It leads to acid rain due to excessive chemical elements present in the air
4) It (creates diseases)* deteriorates the human health and leads to cough, flu, itching of eyes and skin.

5) It also makes human prone to diseases like malaria, hepatitis, jaundice, dengue due to the poor condition of the air and the environment.

Measures to Curb the Situation:

The harmful impacts of the environmental pollution can be curbed by resorting to the following methods:

1) By decreasing the use of pesticides and insecticides that leave deadly chemicals in air
2) By reducing the release of Green house gases in the atmosphere
3) By adding filters against chimneys in factories and transport vehicles to reduce the release of smoke in the air.

4) By adopting efficient methods of recycling and implementing ban on burning of waste products.

5) By raising awareness about the ways environment is being polluted through every day human life activities.

6) By appropriate disposal of waste products and not dumping it anywhere. ~~or~~

d) Wireless Communication

It means a way of communicating with each other without use of physical wires and resorting to signals transmitted through air. It is the most latest form of communication that rely on signals and Satellites to communicate around the globe. It requires the

availability of internet signals and allow speedy and rapid communication between anywhere in the world.

How it takes place?

Wireless communication takes place by sending an receiving signals from a device connected to either the internet or through bluetooth signals. It is the fastest way of communication in present times and allows to send, receive images, videos, files with minutes and seconds. It allows audio and video calls and transmission of data among individuals on the opposite end of the globe. All of these activities are done by through the sending and receiving signals through a device. The device that needs to be

connected with a satellite. The Satellite plays the key role in the smooth wireless transmission and communication.

Working of a Satellite :

There a hundreds and thousands of satellites revolving around the globe in a certain orbit and specific angle and axis. These satellites are part of the global information system and are used for global communication around the globe.

- The satellites receive the signals from their respective towers placed on earth that receive signals from the devices being used.
- These signals are decoded and

are sent back to the communication towers that send back the required information to the devices.

* All the communication is taking place through these satellites.
* They receive and send back the signals in milliseconds and help in the rapid and smooth flow of information from one place on Earth to another.
* Thus satellites are the backbone of the Wireless Communication system.

Section II

QUESTION 7:-

7 ~~IQ / EQ.~~

Intelligent Quobient:

I.Q stands for Intelligence Quobient. It means that how much a person has the ability

to grasp difficult task and problem. IQ tells about the level of intelligence a person falls at. It tells how easily and quickly a person can tackle general knowledge questions and queries.

Emotional Quotient:—

E.Q, on the other hand stands for Emotional Quotient. It tells about the ability of a person to handle his emotions and to solve problems while maintaining a check on his emotions. It tells about the emotional level of a person and where he/she stands in terms of understanding their emotions and dealing with them. Higher EQ means a person is well aware of his emotions and is able to cope with them easily in cases

of stress and anxiety.

* High IQ tells about the intelligence level of a person and his critical thinking ability whereas
* High EQ tells about the emotional level of a person and his problem solving ability when faced with high and extreme emotions.

b) Let x be the present age of Aman

$x = ?$

After 20 years, his age will be 10 times more than his age 10 years back

Current Age $= x$

Age after 20 years $= x + 20$

Age after 10 yrs $= x + 10$

Age after 20 yrs = 10 (Age after 10 yrs)

Putting values

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

$x + 20 = 10x + 100$

$20 - 100 = 10x - x$

$9x = -90$

$x = -10$

Present age of Aman is -10

c) Peter can mow lawn in 40 mins

John can mow lawn in 60 mins.

Time taken to mow the lawn together = x

$\frac{1}{t} = \frac{1}{t_1} + \frac{1}{t_2}$

$\frac{1}{t} = \frac{1}{40} + \frac{1}{60}$

$\frac{1}{t} = \frac{3+2}{120} = \frac{5}{120} = \frac{1}{24}$

1200

$$\frac{1}{t} = \frac{1}{24}$$

$$t = 24$$

So, the total time for both Peter and John to mow the lawn together will be 24 minutes.

d) Percentage error = ?

$$\% \text{ error} = \frac{\text{New} - \text{Original}}{\text{Original}} \times 100$$

$$= \frac{3/5 - 5/3}{5/3}$$

$$= \frac{\frac{9-25}{15}}{5/3}$$

$$= \frac{-16}{15_5} \times \frac{3^1}{5}$$

$$= \frac{-16}{25}\ \%$$

This is the % error

8)

(a) Width of rectangle room = 60 % (length)

Length of the room = 15 ft

Width = 60 % (15)

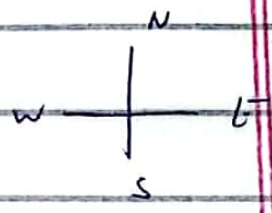
$= \frac{60}{100} \times 15$

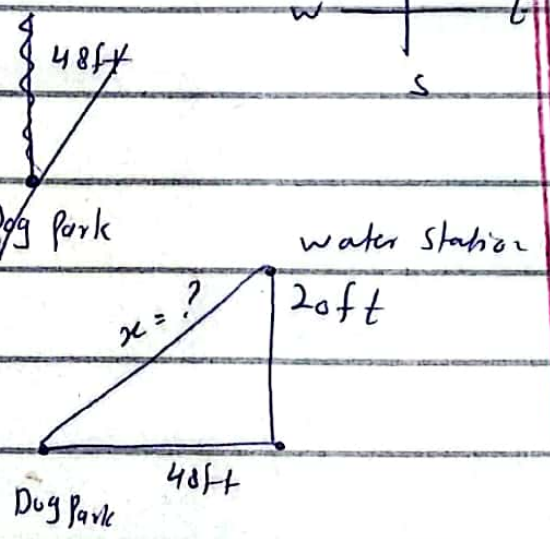
$= 9$

The length is 15 ft

The width is 9 ft.

b)





Let us use the formula.

$(Hyp)^2 = (Base)^2 + (Perp)^2$

$x^2 = (48)^2 + (20)^2$

$x^2 = 2304 + 400$

$x^2 = 2704$

Taking square root on both sides

$\sqrt{x^2} = \sqrt{2704}$

$\boxed{x = 52}$

If the dog run directly from C' where it started to the water station, it would have to run

$\boxed{52 \text{ ft}}$

c) Total students = 40

Av. marks = 52.15

New average = ?

$Sum_1 = A_1 \times T$

$= 52.15 \times 40$

$\boxed{S_1 = 2086}$

$S_2 = A_2 \times T_2$

$S_1 + 36 = A_2 \times T_2$

$2086 + 36 = A_2 \times 40$

85-49

2086

36

2122

$2122 = A_2 \times 40$

$\frac{10612122}{20^{40}} = A_2$

$A_2 = 53.05\%$

The new average is 53.05%.

d.) 37 people like vegetable pizza
25 people like chicken pizza
3 people like none

Total people = 65 people

~~(e.)~~ Person Probability of a person liking chicken pizza

$P = \frac{25}{65} \; ^{5}$

$= \frac{5}{13}$

$= 0.38$

The probability of a person liking chicken

13 | 50 (.3
39
110
104
6

pizza from the total is 38%.