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Q-1

(A)

## Vaccine:

"The injection or administration of killed or half killed micro-organisms (virus) into the body to protect it against a specific disease by formation of antibodies."

**Example:**

Covid-19 vaccines (Pak vaccine, Sino vaccine)

## Anti-biotics:

"Anti-biotics are the medications used to destroy or slow down the growth of bacteria."

Antibiotics are also known as antibacterials and are used to treat diseases caused by bacteria

## Differences b/w Vaccines & Antibiotics:

| | Vaccines | Antibiotics |
|---|---|---|
| 1- | Administered in the blood | Administered in the form of medicines. |
| 2- | Used to treat diseases caused by viruses | Used to treat diseases caused by bacteria. |

| | | |
|---|---|---|
| 3- | It produces antibodies that fights against the diseases. | Antibiotics attack the disease and slow down the growth of disease. |

(B)

## Cyclones:

It is a large air mass that rotates around a strong centre of low atmospheric pressure.

2- Destructive winds, torrential rainfall and storm surges.

## Tsunami:

Tsunamis are giant waves caused by earthquakes or volcanic eruptions under the sea.

2- When it travels inland ithey build up to higher heights as the ~~bottom~~ depth of the ocean decreases. Its speed depends upon on ocean depth

## Typhoons:

Typhoon is a tropical cyclone that develops between 180° to 100° E in the Northern hemisphere

2- Typhoons occur in the western Pacific Ocean. Tropical cyclones occur in the p South pacific ocean and Indian Ocean.

(C)

**Galaxy:**

Galaxy is a huge collection of gases, dust and billions of stars and their solar systems which held together by the force of gravity. It is a fundamental structural unit of the universe. The numbers of galaxies estimated are 100 billion to a trillion in the universe.

**Types:**

Three types of galaxies

1- Elliptical
2- Spiral
3- Irregular.

**~~Elliptical~~: Spiral:**

It is disc shaped spiral galaxy. In this old stars are located in the centre and young stars are located in the arms. They are smaller and less bright

Spiral galaxy

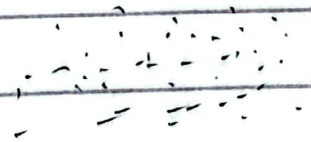
## Elliptical:

Its distribution is not uniform. These galaxies are smooth and oval-shaped. Most of the stars in elliptical galaxies are very old and no new star formation in them. These are brightest galaxies but brightness decreases when moving away from centre.

Elliptical.

## Irregular:

These types of galaxies are randomly spread and difficult to form a pattern. These comprised about one-tenth of all galaxies. The stars in this galaxy are very old without a definite structure. The light visible comes from stars inside.



irregular galaxy.

(2)

## Explain DRM:

Disaster Risk Management System ~~System~~ can be defined as the organization and responsibilities for dealing with all humanitarian aspects of emergencies

in particular preparedness, response and recovery in order to lessen the impact of disaster.

## Phases / Elements of Disaster Risk Management:

There are four major elements or phases of Distaster risk management. These are not always occur in isolation or in following order but based upon situations.

(1) Mitigation
(2) Preparedness
(3) Response
(4) Recovery.

### (1) Mitigation:

It is pre-disaster preparations to eliminate or reduce the probability of occurance or reduce the impact of unavoidable disasters by ensuring several measures.

### (2) Preparedness:

In this phase governments, organizations and individuals develop plans to save lives, minimize disaster damage and enhance disaster response operations where in several measures are included like awareness, aid, evacuations, communications, etc.

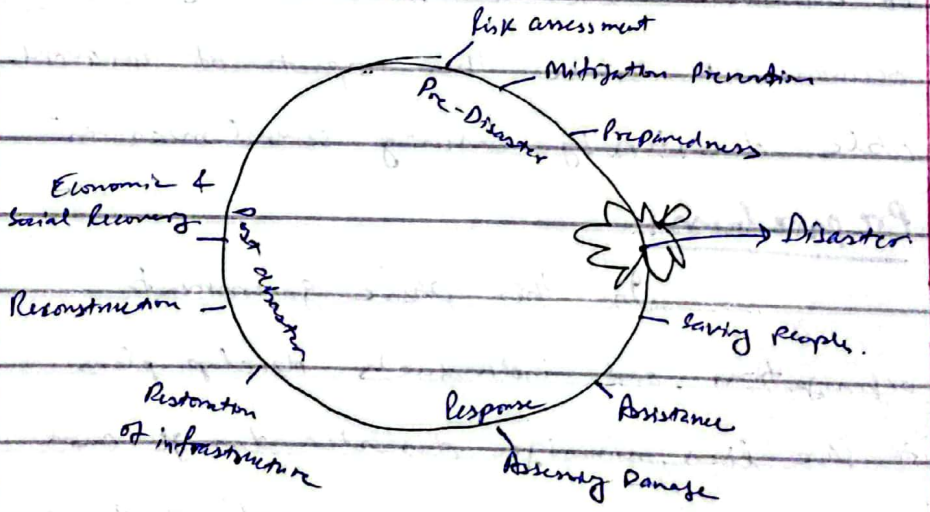
## ③ Response:

Response include to provide immediate assistance to maintain life, improve health and support the moral of the affected population.

Humanitarian organizations are often strongly present in this phase.

## ④ Recovery:

It is a post-disaster activity to ensure the return of affected people to their areas safely. It also aim to restoring their ~~to~~ lives and infrastructure that support them. this phase continues until all systems ~~are~~ return to normal or better.




Disaster Risk Management Cycle

Q2

(A)

**Good fats:**

Fats including monosaturated and polyunsaturated fats good fats.

**Bad fats:**

those fats including industrial made and unsaturated fats are called bad fats.

**Difference b/w Good & Bad fats.**

| | Good fats | Bad fats |
|---|---|---|
| ① | Good fats protect your body against heart diseases | Bad fats pose a threat to your heart and blood vessel system. |
| ② | Monounsaturated & poly-unsaturated | Industrial-made trans-fats. |
| ③ | Fatty fish, chia seeds & Dark chocolate, etc | High fat dairy foods, tropical oils etc |

(B) (5) Uses:

(i) Vitamin B-Complex:

① Promote healthy Appetite

② Proper nerve functioning

③ Boost & maintain Energy levels.

④ Supporting Cardiovascular health.

(5) Improve Digestion.

### (ii) Vitamin - E:

(1) Improves Vision
(2) Helps in Reproduction activity. (anti oxidant)
(3) Improves the health of blood
(4) Essential for healthy scalp and hair.
(5) Keep the skin healthy & nourished.

### (iii) Vitamin - D:

(1) Loss of bone density lead to fracture
(2) Damages sleep patterns
(3) Changes skin colors.
(4) Loss of Appetite
(5) Fatigue.

### iv) Iron:

(1) Used in formation of hemoglobin
(2) Regulates body temperature
(3) helps in muscle activities.
(4) help boosting Immune System of body
(5) Helps in brain development & function.

(C)

## Food Adulteration:

The alteration of food quality that takes place deliberately. It includes the addition of ingredients that modify the color, taste or any other thing that naturally presented in that food for economic advantage.

## Types of food Adulteration:

Three types of food adulteration is generally being practised.

① Quantitative ② Qualitative ③ Informational.

## Effects of Food adulteration:

There are numerous effects of food adulteration but some are given below.

① Stomach disorder ② liver disorder
③ Diarrhoea. ④ Abdominal contraction
⑤ Cancer.

Food adulteration posses harmful effects on human health and productive activities lead to economic and health loss.

## Solutions:

1. check if the seal is valid or not before buying.
2. Make sure to clean and store with due care
3. Avoid dark colored junk and other processed food
4. Always check ingredients and manufactured and expiray date before by buying food items.

## (D) Five food preservation method:

Food preservation is a process to handle and treat a food in order to control its spoilage. Following are the ways to preserve food.

### i) Refrigeration & Freezing:

The decrease in temperature cause slow down of microbial activity. It also avoid the growth of germs.

### ii) Boiling:

By boiling germs that cause spoilage of food are killed, hence food can be store for longer time. Milk is pasturized by killing germs while boiling.

(iii) **Vacuum Packing:**

Air tight packing of food causing no oxygen flows lead to the death of bacteria and prevent food from being damaged.

(iv) **Chemical Additives:**

Chemicals are added to food but in small amounts to preserve food items as it cause slowdown of chemical changes and growth of micro-organisms.

(v) **Salting & Pickling:**

Salt kills and inhibits growth of micro-organisms at 20% of concentration. Pickling is used to increase the shelf life of food.