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Test # 01 GSA

Q No 1:- (A) Define vaccine and Antibiotics. Give differences between them.

**Antibiotics:**

Antibiotics are used to prevent the effect of bacterial infections. Although they have side effects but antibiotics are used to reduce infection and it would not be used without doctor's prescription.

The most famous antibiotics are penicillins, Tetracyclines, and aminoglycosides. Penicillins are used for chest and urinary tract infections. On the other hand, aminoglycosides can use antibiotics which doctors do not prescribe because of having side effects. They are usually given by drops, injections in the quantity of drops.

**Vaccine:**

Vaccine is made up of live or dead microorganisms used to defend against specific disease. The first vaccine was discovered by Edward Jenner in 1796 when he formed vaccine of smallpox by using organism in cowpox. The vaccine can be

Formed from live microorganisms and these are also killed & inactivated vaccines.

## Difference between vaccines and Antibiotics:

1- Antibiotics are substances used against infection. On the other hand vaccines are made up from microorganisms.

2- Vaccines are taken in one or two doses in the whole life for specific disease. On the other hand antibiotics are taken whenever a man face infection of any type. So, in human life antibiotics can be taken many times.

3- The prominent ~~ex~~ example of vaccines are Polio vaccine, Coxsack vaccine and Smallpox vaccine.

Similarly common antibiotics are Penicillines, Aminoglycosides and Tetracyclines.

4- Vaccines are used for the prevention of particular disease while antibiotics are used for the prevention of particular infection.

B - Differentiate between cyclones, Tsunami and typhoons.

Difference between cyclones, Tsunami and typhoons.

Cyclones

Tsunami

1. cyclones are formed due to low pressure in air and by condensation.

Tsunami are formed by oceanic waves in water.

2. cyclones are in the atmosphere and they lose their effect when they hit ground.

Tsunami are waves in huge waves of water with great pressure

3. cyclones is a system of rotating winds formed by pressure gradient and Coriolis effect

Tsunami are formed by volcano eruption in sea or due to earthquake

4. cyclones have three areas: eye, ey wall and rain-bands

Tsunami has not areas around waves but it is a huge wave of 100m and of speed of 500 to 500 km/hr miles/hr

5. cyclones occurred in different oceanic regions have different names. The cyclone in Indian

Tsunami is not in different in different regions. The recent great tsunami was

ocean or Pacific ocean  
is known as Typhoon  
which cyclone occurred  
in Atlantic is called  
hurricane

occurred in Japan  
in 2011, in which  
18,550 people  
were killed

C - Write a short note on Galaxy.

## Galaxy:

Galaxy is a mixture of stars,  
dust, gases, dark matter and meteoids.  
It was estimated that in the universe  
there are 200 billion or 2 trillion  
galaxies existed, and each galaxy  
contains hundred thousands stars, planets  
and dwarf planets. The great mass  
of galaxy is due to dark matter.

According to the structure of galaxy  
galaxies are divided into three categories

1. Elliptical Galaxies
2. Spiral Galaxies
3. Irregular Galaxies

### 1. Elliptical Galaxy:

Elliptical Galaxies are most  
abundant in the universe. These galaxies  
have younger, hotter brighter collection  
of stars. They ~~do not~~ lack swirling  
arms.

### 2. Spiral Galaxy:

In Spiral Galaxy the stars,  
gases and dust make spiral arms

and spread outward from the centre. There are three types of spiral arms:

(i) Sa

(ii) Sb

(iii) Sc

Sa spiral arms are tightly packed stars, dust and gases.

Sb spiral arms are moderately packed stars and other astronomical objects.

Sc spiral arms are loosely packed astronomical objects towards the centre. Our solar system belongs to spiral galaxy, in which sun is a dwarf star and other eight planets revolve around it.

### 3- Irregular Galaxies:

Irregular galaxies have no particular shape. Magellanic clouds are examples of irregular galaxies. Moreover 20% galaxies existed in universe are irregular galaxies. The irregular galaxies are smallest galaxies.

D- Explain DRM

DRM:

(DRM) stands for Disaster Risk Management. It means that how the disaster or hazards whether it is man made or natural; can be managed properly?

All the natural disasters include Tsunami, cyclones and earthquakes.

While man-made disasters are floods, wildfire etc.

## Process of DRM:

The process of Disaster Risk Management consists of four

Phases:

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



### 1- Mitigation:

The first phase is "mitigation" which means to analyze situation, assess hazards and take steps taken for that direction. In order to mitigate the after effect of disaster the robust measures enforcement of robust measures is taken in this phase.

### 2- Preparedness:

The second phase of DRM is preparedness for

primary disaster. In this phase initial technical assistance, evacuation and communication build up.

### - Response:

The third step is response. The authorities act at the time of disasters and analyze situation according to their understanding.

### - Recovery:

The last process of DRM is to recover economic and physical human losses. The recovery phase can be short term and long term depending on the strategy of authorities.

Q No 2: (A) Differentiate between good fats and bad fats. Give examples.

(B) Give 5 uses of each of the following.

(i) vitamin B-complex

(ii) vitamin E

(i) vitamin E is useful for maintenance of hairs.

(ii) It protects cells from oxidative damage

(iii) It reduces heart disease

- (iii) It benefits cognitive health
- (iv) It benefits skin health.

## Vitamin D:

- (i) It facilitate immune system
- (ii) It is helpful in the development of bones and teeth.
- (iii) It regulate mood and reduces depression
- (iv) It is helpful in weight loss
- (v) It improves immune system

## Iron:

- (i) Iron is effective to combat anemia
- (ii) It enhanced cognitive development and improve memory
- (iii) Iron in the body can overcome fatigue, laziness and drowsiness
- (iv) It makes man active.
- (v) It makes more perfection in the circulatory system

## Vitamin B Complex:

- (i) Vitamin B<sub>1</sub> is vital to healthy growth and functions of organs
- (ii) Vitamin B<sub>2</sub> is necessary to break down fats and drugs
- (iii) Vitamin B<sub>3</sub> is good for skin, nerves and digestion
- (iv) Vitamin B<sub>5</sub> is essential for health of brain
- (v) Vitamin B<sub>7</sub> is essential for healthy hairs.



C- Explain food adulteration and give its types, effects and solutions.

D- Explain any five food preservation methods.

### 1:- Dehydration:

Dehydration is a method for food preservation in which food is dried in sun light or dehydrators. In this way dehydrated food can be used for longer time.

### 2:- Freezing Food:

Freezing food is second method of food preservation method in which food is frozen at low temperature where bacteria can not sustain and food can be preserved for long time.

### 3: Canning:

Canning is food preservation method in which food is heated at high temperature and then sealed in bottles. The food in sealed bottles can be save from bacteria. In this way food can be preserved.