

19/40

Focus on
discussion class
please.

Question no: 1

3/5

A. Difference between Vaccine and Antibiotics.

Both Vaccine and Antibiotics are used to treat different types of infections. Antibiotics are the molecules or compounds that are used to treat bacterial and fungal infections.

On the other hand Vaccines are the inactivated or dead micro-organisms that provide immunity against viral infections.

Types

Antibiotics like Penicillin, amoxicillin or tetracyclines are used to treat infections caused by bacteria.

Vaccines also have many types. It can be categorized into Dead or Inactivated Vaccines,

DNA vaccines, Toxoid vaccines
or live vaccines.

Structure :

Antibiotics are made up of
really small molecules but
the vaccines can be ^{made of} smaller
or large molecules depending
upon the type of vaccine.

Sources :

Antibiotics can be derived from
synthetic or semi-synthetic
sources. Vaccines are derived
from dead or inactivated microbes.

Side-effects :

Over-use of antibiotics can
develop resistance against bacterial
infections. It can also cause
nausea, drowsiness, ^{and} headache etc.
On the other hand, vaccine
may cause some allergic
reactions.

Examples :

Antibiotics : Penicillin, Amoxicillin, Tetracycline

Vaccines : Vaccine of Polio, HIV, Corona etc.

C. Write a short note on Galaxy

Galaxy is a collection of stars, dust, huge amount of gases and the solar system. Scientist think that there are about one hundred billion galaxies in our universe. They can be of many shapes and sizes.

Examples:

Milky way galaxy and Andromeda galaxy. Milky way galaxy is Earth's galaxy.

Types and shapes of galaxies

Spiral galaxies:

As by its name, these galaxies have a spiral shape. Milky way galaxy is included in this. It contains dark matter, holes and stars.

Elliptical galaxies

As by its name, these galaxies

have an elliptical shape
They are less common than
the spiral galaxies. They
contain little gas and dust.
In these galaxies stars orbit
around in random directions.

Irregular galaxies

They have weird shapes
like toothpicks, rings or
grouping of stars.

They have significant amount
of gas and dust.

There are
other types of galaxies also
like the active galaxies
lenticular galaxies and Blazars.

D.

Explain DRM

3.5/5

Disaster Risk Management (DRM)
is a systematic approach
to counter, strategise and
implement certain measures
to counter disasters such as

floods, earthquakes, cyclones, and all the related natural disasters.

Stages involved in DRM.

(i) **Pre-planning or pre-preparedness.**

This stage involves planning about a certain calamity even before it has arrived. This can be achieved by analyzing, and seeing the past experience of a certain disaster about its time and nature. In this stage all the analysis is done about the disaster and collaborative efforts are taken to ensure that all the things are ready before a certain disaster.

(ii) **Planning and Execution**

In this stage when a certain disaster has wreaked havoc, it is to counter it as early as possible and to avoid losses and to make sure ~~minimum~~ loss.

is minimum. This can be achieved by proper execution of a ✓ certain Plan.

(ii) Operation and Recovery

This is the last stage.

Quick recovery ✓ planning is implemented and operation technique ✓ are implemented to ensure safe recover ✓ of humans and their entities.

Advantages of DRM

(i) DRM is ✓ crucial it avoids any huge losses ✓ and best efforts are made to ensure the safety of everyone.

(ii) Better decisions ✓ are made in order to avoid any risks.

Because without planning or ✓ better decisions, one cannot avoid risks.

(iii) DRM reduces unexpected ✓ event meaning that no more events during a calamity can occur.

B.

Cyclones:

2/5

Cyclones are basically system of rotating winds around a low pressure due to pressure gradient and Coriolis effect.

Tornado:

A tornado is basically the funnel shaped system of winds extending around the earth crust to the cloud.

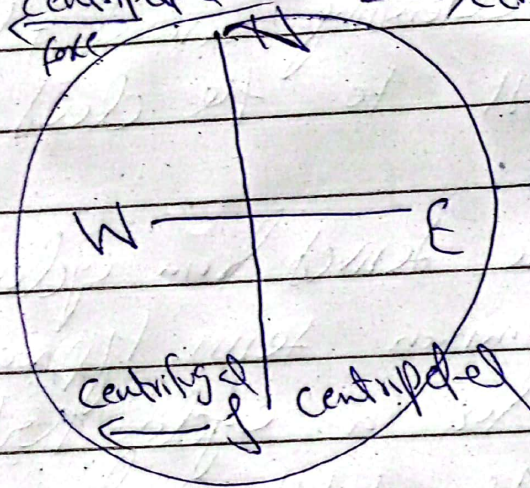
Typhoon:

These are derived from cyclones. The common term 'typhoon' is used for a cyclone that forms in the West Pacific.

Difference between cyclone and Tornado

Cyclones are formed by the pressure gradient and the Coriolis effect. When both of these effects are coupled a cyclone is formed. The Coriolis effect

makes the wind to move in the right direction of Northern hemisphere and to the left of Southern hemisphere. This Coriolis effect is sometimes called as centrifugal force. Centrifugal force is outward force on the mass or object moving in a circular path.



On the other hand, tornadoes form a large thunderstorm. Inside thunderstorms, warm humid air rises and collides with cool air. This imbalance the system of winds and a tornado is formed.

- Both are different and ^{many of} the differences can be discussed below
- (i) Cyclones form over water while tornadoes form over land.
 - (ii) Cyclones are huge 60-100 miles across. Tornadoes are relatively small ^{up to} across 2 ~~x~~ miles.
 - (iii) Wind speed in cyclone is less than 200 mph. and in tornado it is about 300 mph.

Question: 2.

A

2.5/5

Good fats and bad fats

Good fats are those which are healthy for our body and bad fats are those which are unhealthy for body.

Monosaturated or Polyunsaturated fats - Good fats

These type of fats are good fats. These are essential fats because

They are needed from food.

Plant-based foods and oils are

Primary source of fat.

A certain type of fat

omega-3 fatty acid has

been considered as a good fat.

Sources of good fats

Nuts, vegetable oils, peanut

butter, almond butter, ~~and~~

avocados, salmon, ~~fish~~^{fish} and chia seeds.

Benefits:

(i) Improve Blood cholesterol level.

(ii) Decreased risk of cardiovascular disease.

(iii) Coronary artery disease.

Bad fats: Saturated and trans fat

These are harmful for our

health. The food which

contains these fats are

solid at room temperature.

Most saturated fats are

Animal fats.

Sources:

- (i) Pally cuts of beef and lamb
- (ii) Pally skin of chicken, potatoes
- (iii) butter, Cheese, ICE-CREAM, donut
- (iv) palm oil, coca butter, fried food, and processed food.

Effects

- (i) Increased heart attack
- (ii) Can increase blood cholesterol level
- (iii) Increases level of bad cholesterol

B

Uses of

Vitamin B Complex

- (i) healthy digestive tract
- (ii) red blood cell production
- (iii) healthy skin, hair, probiotics
- (iv) Immune system
- (v) energy production

3.5/5

Vitamin D

- (i) Bone health
- (ii) Dental health
- (iii) Tissue health
- (iv) Immune health
- (v) healthy heart

~~Vit~~ Vit C

- (i) helps wounds ✓
- (ii) Brighter skin
- (iii) Fight against infections
- (iv) Iron absorption
- (v) Immune system support ✓

Iron

- (i) Muscle activity
- (ii) helps deliver oxygen ✓ to body
- (iii) Reduces fatigue
- (iv) Restores sleep
- (v) Improves concentration ✓

(c) Food Adulteration

2.5/5

Food Adulteration is any kind of process that changes the color, taste and original shape of the ✓ food.

Types:

- (i) Intentional (mixing chemicals, inferior substances)
- (ii) Incidental
- (iii) Microbial Contamination (physical, chemical or bacterial)

Effects:

- (i) Food poisoning ✓ stomach disorders, cancer
- (ii) down-graded quality of food.
- (iii) Can affect human health (liver, kidney)

Solutions:

- (i) Avoid dark colored, junk and processed foods
- (ii) Check if seal is valid or not ✓
- (iii) Wash and clean vegetables properly
- (iv) Role of government to have a check and balance on those who are involved in adulteration.

D.

Food Preservation method:

Food preservation methods are used to store food and preserve it for a long time.

(i)

Canning:

Food is stored in cans by heating and sealing it in containers.

(ii)

Drying:

In this method food is dried under sun or heat.

(iii)

Freezing:

In this method, food is frozen at a lower temperature to destroy organisms responsible for spoilage.

(iv)

Curing (Salt)

Packing salt around food pulls out any moisture in the food.

2/5

(v)

Dehydration

In this method water is removed from the food to preserve it for long time.