

Q1] A- Define Vaccine & Antibiotics.
Give differences between them.

Ans VACCINE: A biological preparation

that improves immunity to a particular disease. A vaccine typically contains an agent that resembles a disease-causing microorganism. It is often made from killed forms of the microbe.

A method of stimulating resistance in the human body to specific disease-causing microorganisms called vaccination.

* Types of vaccines

There are different types of vaccines. They include the following:

(i) Attenuated: Live viruses are used in some vaccines such as measles, MMR vaccine.

(ii) Killed: Viruses or bacteria are used in some vaccines such as polio, tetanus.

① Some diseases & their vaccines:
Disease Vaccine.

Measels & mumps

M.M.R. vaccine

Anthrax

Anthrax vaccine

Tuberculosis

B.C.G

Polio myelitis

Polio vaccine.

② ANTI-BIOTICS

Antibiotics are chemical compounds used to kill the growth of infectious organism. They are the most frequently prescribed medicine. The first antibiotic was Penicillin.

Antibiotics only treat bacterial infection. They are useless against viral infections.

Antibiotics can be provided in several ways:

i) Oral antibiotics: Tablets, pills and capsules which can be used to treat mild infections.

(ii) Topical antibiotics: Cream, lotion, spray or drops commonly used for skin infections.

(iii) Injections of antibiotics: Through a drip or directly into blood or muscle.

(c) Write a short note on Galaxy.

⊛ GALAXY: A galaxy is a gravitational system of stars, interstellar gas, dust & dark matter.

The word galaxy is derived from the Greek galaxias, literally "milky", a reference to the Milky Way. Astronomers estimate that there are about 200 billion galaxies exist in the universe.

⊛ Classification of galaxies

The following are the types of galaxies:

(i) Spiral galaxy: They are flat, rotating spiral structures.
e.g. Milky way & Andromeda

(12) The Elliptical Galaxies:

They have an elliptical profile giving them an ellipsoidal appearance.
e.g. Galaxy M49, M59

(13) The Lenticular galaxy: An intermediate form which has the properties of both elliptical as well as spiral galaxy.

(14) The Irregular galaxy:

These are those galaxies that do not fit into the categories mentioned. They can't be classified as spiral, elliptical or lenticular.

Milky way: Milky way is a spiral galaxy that includes our solar system. The Milky way contains sun, 400 billion other stars. It has a diameter of 100,000 light years. Our solar system is in a minor arm called the Orion arm.

Differentiate between cyclones, Tsunami & typhoons.

CYCLONES: A cyclone is a large air mass that rotates around a strong center of low atmospheric pressure. Cyclones are usually accompanied by violent storms & bad weather. Areas of low air pressure occur because the sun heats the earth inequally.

(*) TSUNAMI: "tsunami" is a Japanese word meaning "harbour wave", & is used as the scientific term for a class of abnormal sea wave that can cause catastrophic damage when it hits the coastline.

(*) Causes of Tsunami: It can be generated through an undersea earthquake, an undersea landslide, the eruption of an undersea volcano or by the force of an asteroid crashing into the ocean.

(*) Typhoon: They are tropical storms with high speed of winds. Typhoons are located in the Pacific or Indian ocean region.

D.

Explain DRM.

DRM stands for Digital Rights Management. It is the use of technology to control & manage access to copyrighted material.

DRM aims to protect the copyright holder's rights & prevent content from distribution & modification.

DRM is important because of online privacy. It helps the companies particularly media companies to protect themselves from cyber security challenges.

Q2 D- Explain any five food preservation methods.

Food preservation is any of a number of methods by which food is kept from spoilage after harvest or slaughter.

(*) Food preservation methods:

(i) Chilling: Storing food at a low temperature is the simplest

and often safest way to store many types of food.

(2) Freezing: If stored properly, frozen food can last for months because bacteria cannot grow when frozen. The food we keep in the freezer can remain safe to eat for almost indefinite periods of time.

(3) Canning: Keeping food canned significantly extends its lifespan. The canning process preserves food by removing oxygen through an airtight seal & containing food in a sugary or salty environment, where bacteria cannot grow.

(4) Vacuum Packing: Vacuum packing deprives bacteria of oxygen by creating an air-tight atmosphere.

(5) Sugaring: Preserving food in a high sugar environment stops bacterial growth by reducing the food's water content. Sugaring can be used to prevent fruit, vegetables, certain fish & meat.

Explain food adulteration

Food adulteration is an act of intentionally debasing the quality of food offered for sale.

Types:

- (i) Poisonous Matter
- (ii) Economic adulteration
- (iii) Microbiological adulteration
- (iv) ...

A. Differentiate between good fat & bad fats.

(i) Good fats: This fat is in animal, nuts & vegetable oils. Taking good fats may help lower our bad cholesterol. Good fat can help in increasing HDL cholesterol.

(ii) Bad fats: ...