## Part - II

Q No. 2 (a)

### Lipids

Lipid are non-polar biomolecular compounds, commonly known as oil and fats and composed of triglyceride synthesised from glycerole (propane-1, 2, 3-triol) and fatty acids. Phospholipids is type of lipid as well as constitive the major part of cell membrane and act as defender for cell membrane.

Types of Lipids

(i) Saturated Fats
(ii) Unsaturated Fats
(iii) Trans-Fats.

Saturated Fats type of fat which is solid at room temperature refered as solid fat. Mostly present in food, milk, cheese and in meat as well. Some

Saturated fat can be found in the manufactured snacks and non-dairy food. Saturated lipid can raise the cholesterol level in body.

**Trans-fat =>**

The kind of fat changed by the process of hydrogenation. This process increases the life of fat and make the fat harder at room temperature. This can also raise the cholesterol with in body.

**Unsaturated fats**

Are liquid at room temperature, mostly obtained from plants oil. It may improve the cholesterol level. and better than saturated fats to eat.

(i) Mon unsaturated fats
(ii) Poly Unsaturated fats

Monounsaturated fats are the sourced from vegetables oil, nuts, avocado and peanut oils. It also keep the level of good HDL Higher Density Lipoprotein at pertinent level.

Polyunsaturated: Also obtained from vegetable oil such as from sunflower, Sesame, Soybean, and Corn oil. Omega-3 and Omega-6 are polyunsaturated fatty acid.

Functions:

(i) Storage the compounds, triglycerides serve as reserve energy of body.

(ii) Regulate membrane permeability

(iii) Source for fat soluble vitamin like A, D, E, K

(iv) Also act as cellular metabolic regulators

(v) May protect vital organ like heart and kidney.

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Q No. 2 (b)

Ans: Some important and sustainable methods of energy conservation are enumerated below.

(i) Dams construction and fall

(ii) Use of semiconductors which utilize less energy

Energy can be conserved by using in less quantity. Use to some diode such as gallium silicon in electrical appliance is more beneficial because these use about 75% less energy as compared to other electrical appliances.

(iii) Solar energy system

In the solar energy, now a days, solar panels are used to generate energy. In this way energy that is consumed from fuel source or dams can be conserved for long time use. By installing solar panal energy can be conserved.

(iii) Use less auto-mobile mechanic for less distance to cover.
For the purpose to covers short distance, the use of auto mobile and automechanics should be avoided. It will be sustainable to ~~save~~ conserve the energy.

(iv) Renewable energy sources should be availed.
Wind energy, Geothermal energy and hydrology sourced energy can be used to conserve the energy for long time. Most of the developed countries have been shifted their energy generation process from organic to wind energy system. So energy mix should be altered to conserve the energy for long time use.

(v) Nucleas Energy: In the nucleas plants energy is generated by the process of fission reaction. Energy can be conserved by the use of nuclear energy. Because it saves the huge consumption of Organic fuel as well as capital.

## Q No. 2(iii)

Ans:

**Hydrogen Bonding:**

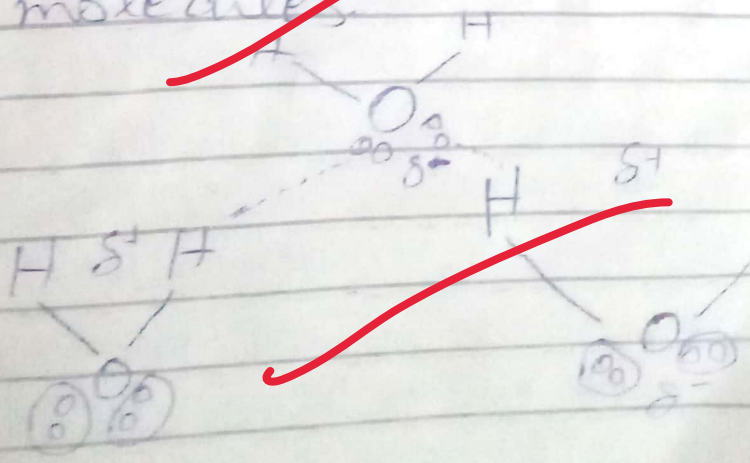
**Deffination:** A kind of intermolecular force for hydrogen bonding with other molecule

Hydrogen bonding is occured between the molecule having one covelantly bonded hydrogen and other molecule, having Nitrogen, Oxygen or F. On the both side of molecule a pairs are available for bonding in the sharing process.

The forces of attraction is about one-tenth of the strength of a normal Covalent bond.

**Example:**

Water has two hydrogen atom and two lone pairs per molecule. So water is extensively hydrogen bonded with other water molecules.



Q No. 2 (iv)

Ans Nervous System of human.

The major role of nervous system to keep all body parts in communicate with one another so as to on the direction or on the stimulus different parts of body can response with respective task.

Human Nervous System is Composed of

(i) CNS (central Nervous System)
(ii) PNS (Peripheral Nervous System)

CNS central Nervous System.

It is composed of neurons and clustur of neurons which combine to form brain.

Brain is further divided into Fore brain, Hind brain, Mid Brain.

Every part of brain do its own task on the receiving of stimulus. Similarly it also control the voluntary and involuntary movement of different organ of the body.

Peripheral Nervous System

Peripheral nervous system is extended throughout the body and also play

a vital role in the transmission of message from appendicular to the brain.
Peripheral nerve system is extention of neuron throughout the body via backbone and kinds of nerve cells as motor neurons, sensory neuron and Associative neurons.

## Q No. 4

(a)
Ans: Hepatitis.

Hepatitis is a viral disease which halt the functioning of liver and also causing of high fever and infection with in the body. A prolonged hepatitis may lead to the death of individual.
Generally it is also known as the inflamation of the liver.
Types
A, B, C are the most common type of hepatitis hepatitis C can be treated

with oral or injective medicine

Causes of Hepatitis

(i) Unhygenic food and polluted water

(ii) Unhealthy agriculture

(iii) Polluted inhibitants where sanitary system is not existed or damaged.

(iv) Blood transformation from infected person.

(v) Some virus of hepatitis can be existed on the instrument of barbes. which are transmitted during hairs cutting or shaves

Symptomes:

(i) Persistent headach with high fever over a prolonged time

(ii) Inability of liver to perform well.

(iii) Turn the color of skin into pale.

(iv) Change the eye color into yellow such as in the case of Jaundice.

(v) Disorder of stomach and long term pain of abdomin.

Preventions:

(i) Use clean and fresh meal
(ii) Drink fresh water and live in clean environment
(iii) Use fresh meat instead of preserved meat
(iv) Take vaccination and make sure blood test after interval of every six months.
(v) Avoid to become recipient of blood (if required) without proper test.

(b)

Ans

Pasteurization

Keep the milk under a proper pressure and temperature to preserve and kill the organisms which can be harmful

Cold

Some microbes can grow in high temperature range from 16-38°C so the method of cold or keep food in low temperature can kill these microbes.

(iii) Use of Acid

Fermentation is another way to keep food preserve. Because in the fermentation process some organism release acid which kills the other harmful organisms.

(iv) Chemicals such as sodium benzoate, sorbic acid, sodium and calcium propionates ethyl formate can be used in limited quantity to keep food preserves.

(v) Radiations Some microorganisms become inactivated to various degrees by different kinds of radiations. X-ray, Ultraviolet light, microwaves and ionizing radiations of different wavelength and energy can be used to preserve food. It is responsible to kill food harm to microorganisms

Q No. 4(c)

Ans:

Fertilizers are the chemical compounds which contain the elements essential for the plant and crop growth. Basically it can be defined to stimulate the growth of plants. Fertilizers contain the micronutrients and macro nutrients.

3

Types of Fertilizers

(i) Nitrogenous Fertilizers
(a) Ammonium Sulphate
(b) Calcium Sulphate
(c) Urea

(ii) Phosphatic Fertilizers.
(a) Single Superphosphate
(b) Diammonium phosphate
(c) Triple Superphosphate
(d) Monoammonium phosphate.

(iii) Potassic Fertilizers
(a) Sulphate of Potash
(b) Muriate of potash

Q No.4 (d)

Anatomy of teeth Teeth is recognized as hardest bone of human body. Because it has ability to cut and

help in initial process of digestion ~~bone~~ known as mastication.

## Structure of Tooth

**Tooth Enamel:** Hardest part of the tooth and also act as protective structure of tooth. , the crown.

It is inorganic and non-living part of the bone.

**Dentine or Ivory**

Soft bony tissue below the tooth enamel that forms the main mass of tooth. It help enamel to absorb the pressure of eating.

**Dental Pulp:**

Pulp is the a soft connective tissue and blood vessels

**Cementum:** It covers the dentine outside. ~~The~~ and is attached to the bone of jaw with little elastic fibers.

**Gums:** It also support the teeth and inside the teeth it seems Pink in colour.

Q No. 6 (d)

(i) 13, 24, 46, 90, 178, 354

By checking the sequence of given series it has been calculated that the missing number is = 354

(ii) 5, 6, 9, 14, 21, 30

By examining the sequence of series it is calculated that missing number = 30

Q No. 6 (c)

Diameter of circle = 6cm

Circumference = ?

Area of circle = ?

$Area = \pi r^2$

$Radius = \frac{1}{2} d$

$R = \frac{1}{2} 6$

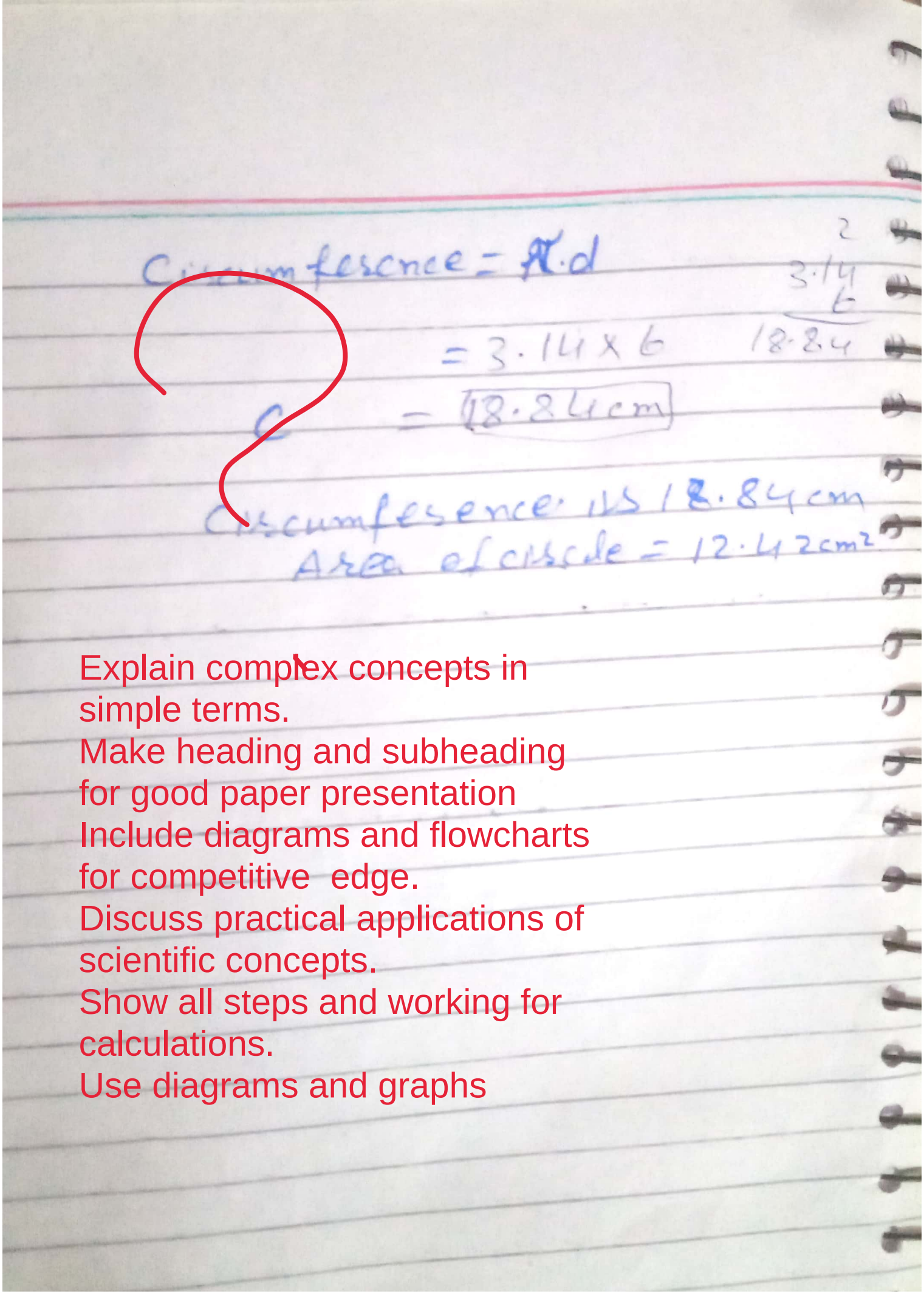
$r = 3$

$Area = \pi r^2$

$= (3.14)(3)$

$Area = 12.42\ cm^2$

3.14
3
12.42




Explain complex concepts in simple terms.
Make heading and subheading for good paper presentation
Include diagrams and flowcharts for competitive edge.
Discuss practical applications of scientific concepts.
Show all steps and working for calculations.
Use diagrams and graphs