

## QSA PYQ (2016)

What is cholesterol? Discuss its importance, normal blood level and dangers of elevated levels with reference to health and diseases in humans.

### Definition

"Fat-like waxy substance present in both animals and plants is called as cholesterol."

### Sources

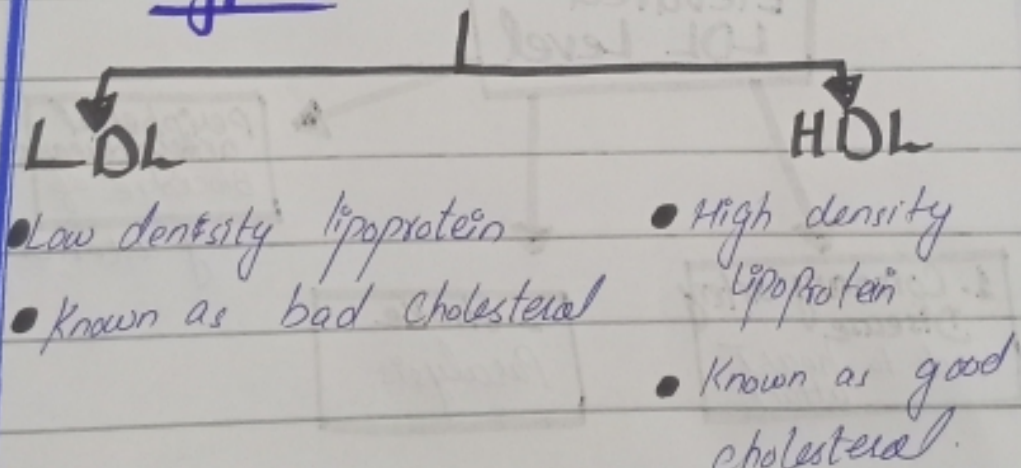
- **Natural** :- synthesized in body by liver.
- **Dietary** :- Processed food, deep fried food etc.

### Blood Level

**Normal** :- less than 200mg/dl

**Border line** :- 200-300mg/dl

### Types



## IMPORTANCE

### 1. Structure Buildings

Integral part of cell membrane hence vital for building cells.

### 2. Vitamin D synthesis

Important for Vitamin D synthesis.

### 3. Aids Digestion

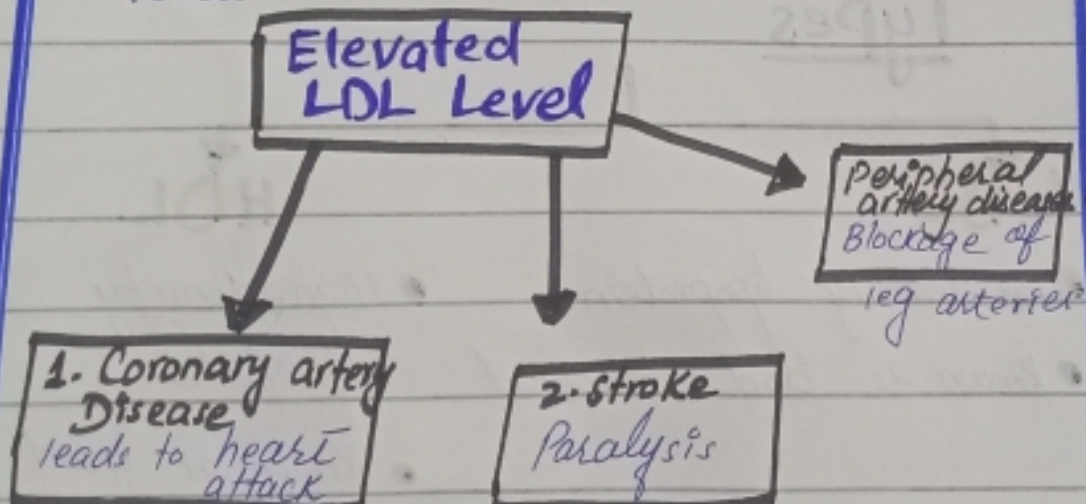
Helps in bile production, hence aids in digestion

### 4. Synthesis of hormones

Synthesis of several hormones takes place due to it.

## THREATS

LDL level in blood must be less than 100mg/dl. Elevated level of cholesterol leads to following disorders due to its deposition in blood vessels.



## PYQ - CSS (2018)

What are bio-fuels? How it is helpful to promote clean energy?

### Definition

"The energy source which is produced by animal and plant sources and supports environment health is called Bio-fuel."

- The Common examples of Bio-fuels are following

Biodiesel

Biogas

Bioethanol

- The Global production of Biofuel has reached 110 billion litres. out of which 80% Household, 2% Transportation and 18% Industries

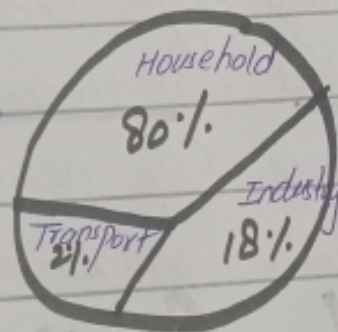


Fig: Biofuel Usage

# Biofuel and Promotion of Clean Energy

Biofuels are environment friendly due to certain aspects discussed below:-

## 1. Natural Organic Feedstock

Organic feedstock such as agricultural, food, animal, forestry and waste water by products are used in synthesis which are friendly to environment.

## 2. Less CO<sub>2</sub> production

"The emission of CO<sub>2</sub> from bio-ethanol is 34% less than gasoline."

Hence helpful in Combating Global warming and climate change.

## 3. Synthesis involve CO<sub>2</sub> Neutral Stock

Certain Genetically engineered plants such as switch grass, Soo weeds used in their synthesis are CO<sub>2</sub> neutral as they absorb CO<sub>2</sub> from environment.

## 4. Replaced fossil fuels.

Biofuel are best replacement of fossil fuels hence minimizing CO<sub>2</sub> emission and Promoting Clean energy.

PYQ - CSS (2022)

Polio (Symptoms, Causes, Prevention and Vaccine)

### INTRODUCTION

"Polio is a disease caused by a virus that leads to the inflammation of grey matter of spinal cord."

### Causes

It is a viral disease caused by three types of viruses:

Type 1:- Called as burnside

Type 2:- Called as Lansing

Type 3:- called as Leon. (The most common causes of polio)

### Spread:-

The virus enters due to improper sanitary conditions. It enters in the mouth then multiplies in tonsils, lymph nodes and intestine. Finally shed off from body with faeces.

### Symptoms

Symptoms range from mild to severe according to type of poliovirus:-

**Abortive Polio**

→ Mild fever, cough, weakness and fatigue

Non-paralytic

→ Infection of nerves leading to stiffness of neck

Paralytic

→ Temporary or permanent damage of nerves

Bulbar poliomyelitis

→ Respiratory and heart rate controlling nerve damage leading to death

## Prevention

1. Improved sanitation is important for prevention.
2. Can be prevented through proper waste disposal.
3. Improved health and hygiene conditions.

## Vaccine

Two types of vaccines are available

OPV

- Oral polio vaccine

IPV

- Inactivated polio vaccine.

Injected through leg or arm.