

# Question 1

## Bile

### 1- definition

Bile is a fluid that is made and released by liver and stored in the gall bladder. Bile helps in digestion. It breaks down fats into fatty acid, which can be taken into the body by digestive tract. Bile is stored in the gall bladder and upon eating is discharged into the duodenum.

### 2- Function of Bile

Bile is a greenish yellow color fluid. (consisting of waste product, cholesterol and bile salt), that is secreted by the liver cells to perform 2 primary functions.

- (1) Bile salt act as bactericides, destroying microbes present in food.
- (2) To carry away waste
- (3) To break down fats during digestion.
- (4) Digestion, absorption, excretion, Hormone metabolism

### 3- How bile is formed?

The bile pigment bilirubin is made when red blood cells are broken down in the liver.

- The main components of bile are water, bile salts, bile pigments and cholesterol.
- Bile salt act as emulsifying agents in the digestion and absorption of fat. Cholesterol and bile pigment break down of hemoglobin and excreted from the bile

## Physical Properties:-

- Hepatic bile → PH 7.4 Color is golden yellow
- Bladder bile → PH 8.8 Color is dark green or yellow.

## 4- Bile Secretion

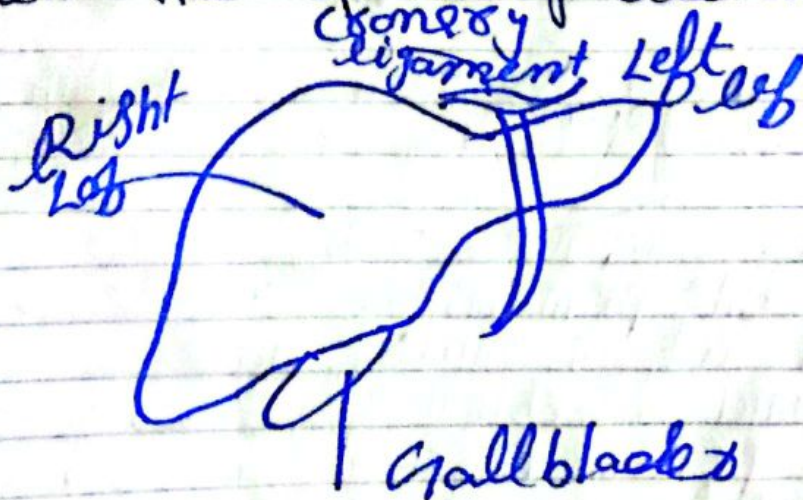
Bile is secreted in 2 stages.

### (4.1) Stage one

The stage one in which liver hepatocytes will secrete an initial secretion that is rich in bile-cholesterol and other components. The initial secretion will drain through many minute bile canaliculi that penetrate the liver.

### (4.2) Stage 2

The initial secretion will flow toward bile ducts. during its flow in the duct secondary secretion added in it which is sodium bicarbonate (secondary) watery solution. The bile is empty into ~~duodenum~~ when the sphincter of oddi is open



Define the term.

- (1) Anaemia
- (2) Appendicitis
- (3) Spleen
- (4) Myopia
- (5) Isotones

(1) Anaemia .

in Anaemia of not having enough health red blood cells or hemoglobin to carry oxygen to the body tissue. Hemoglobin is a protein found in the red cells that carry oxygen to all other organ in the body.

Causes / Symptoms.

- (1) Tiredness
- (2) weakness
- (3) Short breath
- (4) Yellowish skin
- (5) Irregular heartbeat
- (6) Chest pain
- (7) Headaches
- (8) Cold hands and Feet

3 types of anaemia

(1) Aplastic anaemia  $\Rightarrow$  when body unable to form new blood.

(2) Iron deficiency  $\Rightarrow$  when lack of health RBC in body

(3) Sickle cell anaemia  $\Rightarrow$  it is inherited. which effects the shape of RBC. which carry oxygen. The Round, Flexible cells become crescent shape.

(4) Thalassemia  $\Rightarrow$  it is inherited disease that cause your body less blood than normal.

(5) Vitamin B-12 deficiency  $\Rightarrow$  it is due to low amount of Vitamin B-12 in body.

## Treatment

Eat Health food which is rich with vitamin and supplement use.

## (2) Appendicitis

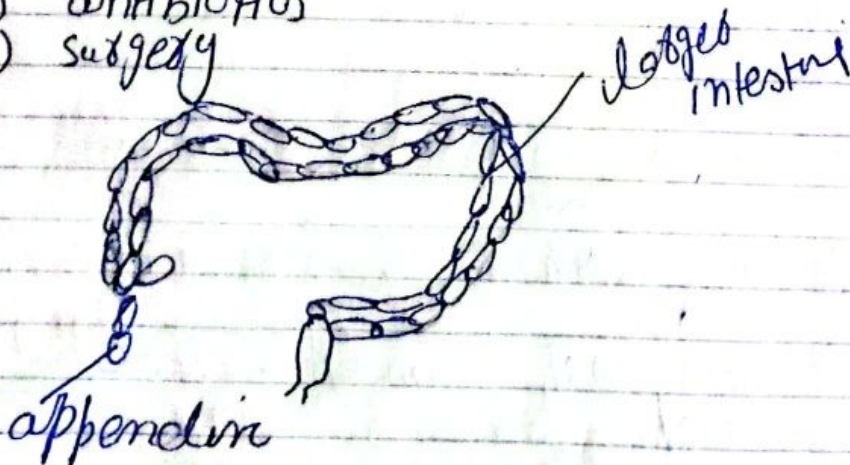
Appendicitis is a inflammation of appendix. it is finger shaped pouch that sticks out from the colon on the lower right side of the belly also called abdomen.

## Symptoms

- (1) it cause pain in lower right of abdomen.
- (2) Sudden pain that begin around the navel and often shifts to the lower right abdomen
- (3) Nausea and vomiting
- (4) Loss of appetite.
- (3) Abdominal bloating

## Treatment

- (1) antibiotics
- (2) surgery



## (3) Spleen

An organ that is a part of the lymphatic and blood system.

The spleen filters blood to help destroy micro-organisms and get rid of old or damaged RBC. It also makes lymphocytes and stores blood cells.  
It is present on the upper left side of the abdomen under the ribs and above the stomach.

## Functions.

### (i) Red pulp.

Filtration of RBC

### (ii) White pulp

A active immune response through humoral and cell mediated pathways. Make white cells that help you fight with infection.

(3) maintain level of fluid in body

(4) Produce antibodies that protect against infection.

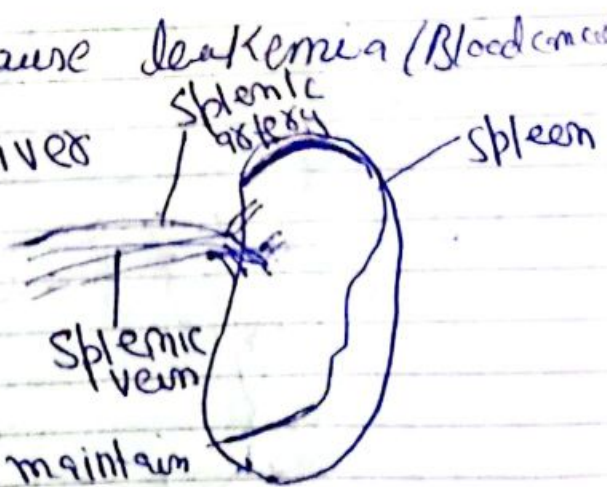
(5) Stores blood.

## Disorders

(1) Disorders of spleen cause leukemia (Blood cancer)

(2) Blood clot in liver

(3) Cystic Fibrosis



## Treatment

(1) Healthy Food

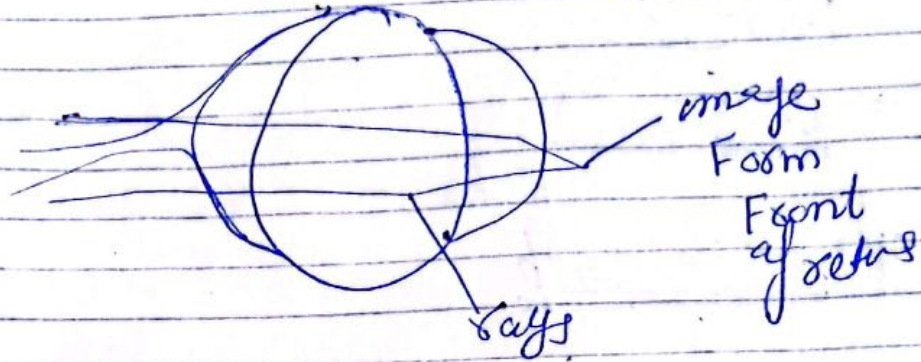
(2) Plenty of water drink

(3) Regular Exercise to maintain healthy weight.

(4) Protect body from infection.

# myopia

Myopia is a short-sightedness in which parallel rays of light come from infinity and focus in front of retina



## Symptoms

- (1) Difficulty to see distant object
- (2) Nausea
- (3) Headache
- (4) Eye strain
- (5) Squint

## Sign

- (1) Curvature of cornea is exaggerated
- (2) Prominent eyeball

## Treatment

### Non-surgical

- (1) Concave lens
- (2) Spectacles
- (3) myopia therapy/  
Exercise

### Surgical

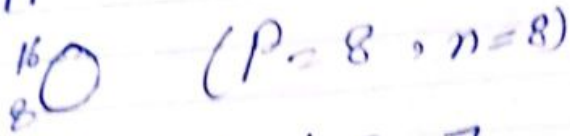
- Lasik
- LEsed
- Keratotomy

## Isotones

Two or more atoms have same number of neutrons. The atomic number and mass are different. Protons number is different.

### Example

Oxygen



Nitrogen  ${}^7_{15}\text{N} \quad (P=7, n=8)$

### uses

- (1) It is used in medical imaging
- (2) Nuclear weapon.

Q3

Difference b/w cyclones and Tornadoes which cyclones was observed in 2024?

The tropical cyclone in 24 May 2024 was observed in north Indian ocean. Its name was Remal

# Cyclone

## Definition

(1) Cyclone look like a large whirlpool that is found out in the tropics. It look like a huge mass of air that have disc like shape.

## 2 Formation

Heat is released from the moist air and condensation of ocean. 21 degree air is ideal. Water evaporates from ocean. The wind rise up and release energy to form cloud. It almost like a balloon.

## 3. Effects

(1) Its main effects are heavy rain, strong wind, large storm.

After cyclone destroy land and disease.

# Tornado

## Definition

It is a column of air that is contact with earth, a cumulonimbus cloud. Its speed less than 110 miles per hour. It travel few miles and then disappears.



## Formation

Darker storm cold air and warm air combine in a set pattern. The cold air drop the warm air rise. The warm air twisted into funnel cloud that you m tornado.

## Effect

in its structure

Some time life threatening



Q

## How Earthquake form

Earthquake are result of sudden movement of faulty plates. The store energy in the form of elastic strain are released in the form of seismic wave which cause the ground of earth shake.

How many people died in Turkey earthquake.

on 8 Feb 2023 the worst earth quake killed over 55000 people in Turkey.

intensity of earthquake was 7.8 magnitude on Richter scale in the southwest area.

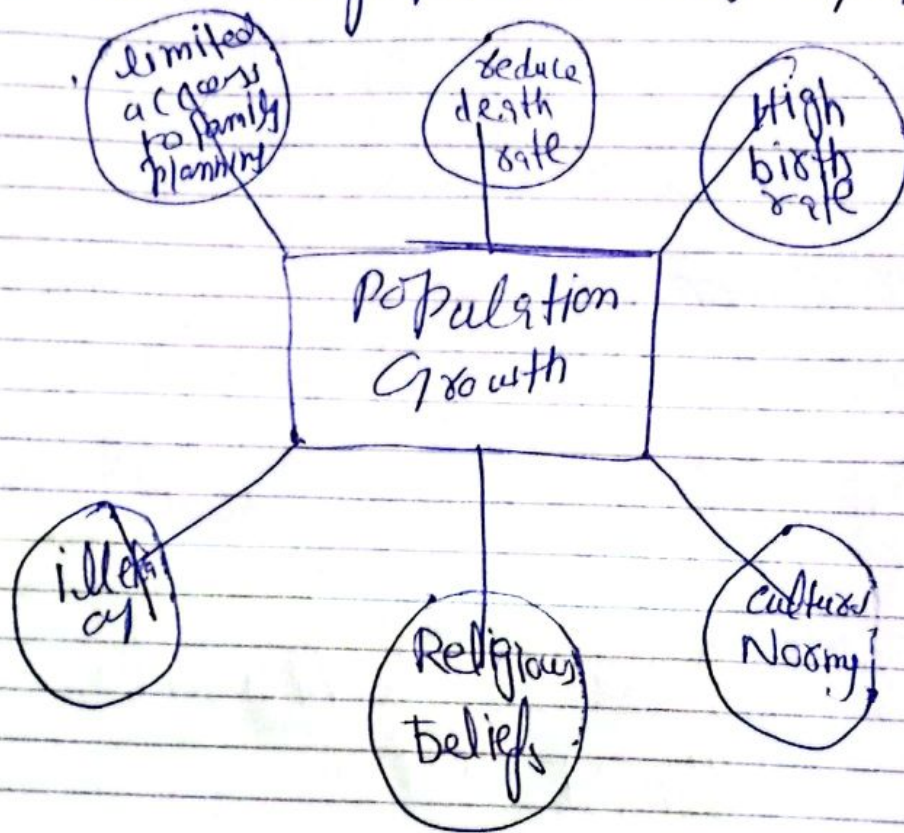
Q

Reason of High population in Pakistan

## Population Growth

Population Growth is an increase in the number of people in a given area. Population growth can be measured with a neighborhood, country or global level of population.

Reason of Pakistan high population.



## Control measures

- (1) Promote education of family planning
- (2) Economically independency

(3) Educate women

math postka

Q219

Radius = 30cm

height = 1

Volume = ?

Value of  $\pi =$   
3.14

Formula

$$V = \pi r^2 h$$

Solution

$$= 3.14 \times (30)^2 \times 1$$

$$2827.433 \text{ cm}^3$$

Result

$$2827.433 \text{ cm}^3$$

Find wrong no

8, 19, 52, 151, 447

$$8 \times 3 - 5 = 19$$

$$19 \times 3 - 5 = 52$$

$$52 \times 3 - 5 = 151$$

$$151 \times 3 - 5 = 448$$

447

is the  
wrong No

11, 13, 17, 19, 23

$$11 + 2 = 13$$

$$13 + 4 = 17$$

$$17 + 2 = 19$$

$$19 + 4 = 23$$

$$23 + 2 = \boxed{25}$$