



Use for rough work

Q. No. 2 Part (i)

Stimulus:

- Any change in an environment that makes an organism to react is called stimulus.
- It can be internal as well as external stimulus.
- **Example:**
  - Hunger (internal stimulus)
  - Pain, touch (external stimulus)

Q. No. 2 Part (ii)

Method of reproduction.

- Budding

Budding:

In budding, an outgrowth is grown on parent organism. After development, this small bud detaches from parent ~~offspring~~ and forms a new organism.

Q. No. 2 Part (iii)

Food Biotechnology:

It refers to the technological genetic advancement in crops for better yeild and quality.

- Bt-cotton crop is one genetically modified crop grown in Pakistan.

Q. No. 2 Part (iv) Role of Immune System

Three roles of immune system include:

- Fight against pathogen.
- promotes wound-healing process.
- Protect the body from pathogens upon future exposure.

Q. No. 2 Part (v) Myocardial ~~Infection~~ Infraction.

- Treatment

- Myocardial infraction can be treated by;

1) Angioplasty:
Mechanical widening of ~~blocked~~ blocked arteries or narrow arteries.

2) Coronary Bypass Surgery:
Surgical method of widening coronary arteries by bypassing process.

- Preventive measure.

- Avoid Smoking - Avoid spicy food - Avoid Stress

Q. No. 2 Part (vi)

Bronchitis: is caused by inflammation of lining of air passage such as trachea, bronchi, bronchioles.

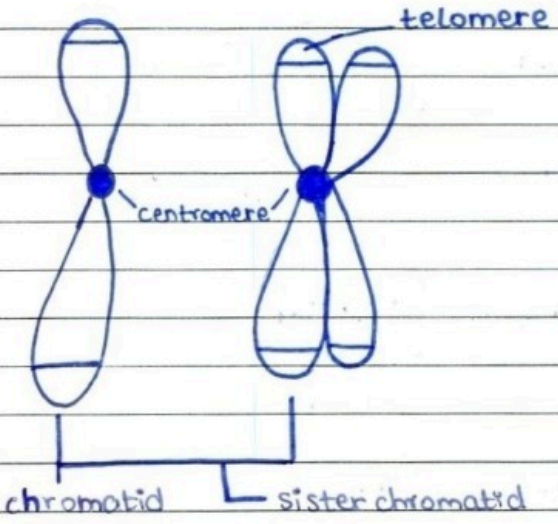
Symptoms:

- Increased breathlessness
- coughing

causes:

- smoking
- side effect of viral infection like flu.

Q. No. 2 Part (vii)



- Chromosome

Q. No. 2 Part (viii)

Process of Blood clotting:

- It includes.
  - contraction of blood vessels
  - Production of antibody
  - Formation of platelets.

Q. No. 2 Part (ix)

Mean: Sum of all value divided by number of total values.

$$\bar{x} = \frac{9+13+22+14+22+20}{6} = \frac{100}{6} = 16.6 \approx 17$$

Mode: Mode is maximum value that is repeated again.

$x^{mo} = 9+13+22+14+22+20$

Mode is 22.

Q. No. 2 Part (x)

Composition	Inspired Air	Expired Air
Oxygen	21·/.	16·/.
carbondioxide	0·04·/.	4·/.
Nitrogen	79·/.	79·/.
Temperature	variable	About body temperature
water vapour	variable	Saturated
Dust particles	variable	little, if any

Q. No. 2 Part (xi) Glomerular Filtration

The movement of small molecules across glomerular as a result of high blood pressure. It include simple sugars like amino acid, nutrients, salts, water that enters the bowman's capsule. Amino acid and simple sugars are absorbed by blood through blood capillaries whereas some proteins are not absorbed as they are too large for this filtration process.

Q. No. 3 (Page 1)

Diabetes

Diabetes is a metabolic disorder caused by high blood sugar Level. It is a chronic disease.

Type Of Diabetes:

Types of diabetes include:

- Type-1 Diabetes (T1D)
- Type-2 Diabetes (T2D)
- Gestational Diabetes

• Type-1 Diabetes, (T1D)

- It is a chronic disease.
- An autoimmune disease destroying insulin producing cells in pancreas.
- It can be treated by taking regular injections of insulin.

• Type-2 Disease : (T2D)

- It is a chronic disease.
- A metabolic disorder from insulin resistance or impaired insulin secretion

• Gestational Diabetes:

- Develops during pregnancy.
- Most of cases of gestational diabetes will reverse shortly after the delivery.

Q. No. 3 (Page 2)

Effects on Human Body

• Short-term effects:

Short-term effects include:

- fatigue
- thurst
- increase in urination
- slow healing wound
- blurred vision.

• Long-term effects:

Long-term effects include:

- high blood pressure
- heart diseases
- high risk of covid-19
- high cholestrol level
- high uric acid level
- kidney damage
- ratina damage
- high lipid level

Q. No. 4 (Page 1)

- **Breathing:**
  - It is a mechanical process.
  - It involves taking in of oxygen and carbondioxide out of body.

- **Types / categories:**

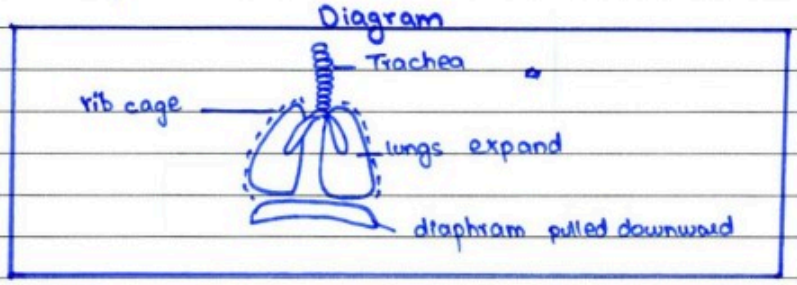
Breathing are of two types:
- Inhilation or Inspiration
- Exhalation or Expiration

- **Mechanism of Breathing.**

Inhilation

1) The muscles in diaphram contract. This pulls the diaphram downward.
2) The intercoastal muscle contract. This makes rib upward and outward.
3) The lungs expand. When the volume increases, the pressure in lungs decreases.
4) The air is force into the lungs from nose / mouth.

Diagram

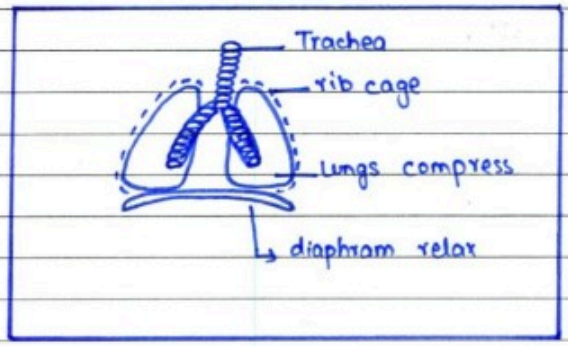


Q. No. 4 (Page 2)

Exhalation

1. The diaphram muscles relax. This ~~pulls diaphram~~ ~~upward~~. makes diaphram to become normal.
2. The intercoastal muscle, relax. ~~This~~ ~~allows~~ This pulls ribs downward and inward. ~~diaphram to become normal~~.
3. The lung compresses. when volume decreases the pressure in lungs increase.
4. This allow air to move out to the surroundings.

Diagram:



Q. No. 5 (Page 1)

Structure and Function of Stomach

- Stomach is the dilated part of digestive system, which helps in digestion of food.
- It is a sac-like structure; roughly J-shaped.
- Stomach consists of opening which are surrounded by values.

Openings:

- The openings between oesophagus and stomach is called **cardiac opening** which is guarded by **cardiac sphincters.**
- The opening of stomach into duodenum is called **pyloric opening** and it is guarded by **pyloric sphincters.**
- The region of stomach around cardiac opening is called **cardiac end.**

- **GASTRIC GLANDS:**
- The stomach secretes gastric gland. Gastric juice contains mucous, HCl, pepsin and renin.
- The food in stomach stimulates gastric gland.

Renin: It is secreted only in infants. It helps digestion of milk protein.

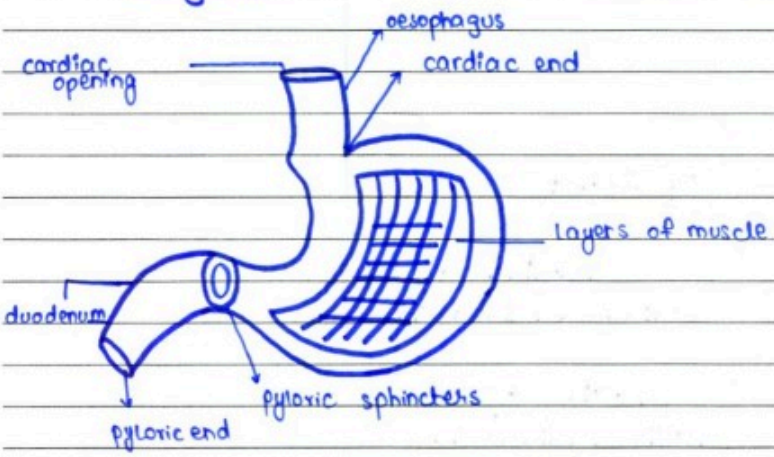
Mucous: outer covering which protects stomach walls from digestion.

HCl: It kills many microorganism. It converts inactive form (pepsinogen) into active form (pepsin).

Pepsin: Provides acidic medium for action of enzymes.

Q. No. 5 (Page 2)

Diagram



Q. No. 6 (Page 1)

- **Dialysis:**

The process of removing wastes and excess water from blood is called dialysis.

- **Types.**

Dialysis are of two types:

- Haemodialysis
- Peritoneal dialysis.

- Haemodialysis:

Process of dialysis involves;

1) Blood is cleaned out side the body.
2) Uses a dialysis machine.
3) Urea, waste, salt, excess water is removed out of the body.
4) Cleaned blood is returned to the body.
5) Done 2-3 times a week in hospital.

- Peritoneal Dialysis:

Process of peritoneal dialysis involves;

1) Blood is cleaned inside the body.
2) Peritoneum is used as filter.
3) Specific dialysis fluid takes waste and excess water.
4) Fluid along the wastes is removed out of the body.
5) Can be done at home.
6) Done regularly after 3-4 hours a day.

Q. No. 6 (Page 2)