



Use for rough work

Q. No. 2 Part (i) **STIMULUS**

Any change occured in the environment is called Stimulus (plural stimuli). Stimuli can be of two type 1) external stimuli and 2) Internal stimuli.

External stimuli:-
Change in external environment.
e.g :- feling of cold, hot or rough surfaces.

Internal stimuli:-
Change in internal body of organism.
e.g :- feeling of hunger, tiredness etc.

Q. No. 2 Part (ii) "Budding"

The method of reproduction is "Budding".

Budding is a type of asexual reproduction in which a small outgrowth is grown ~~of~~ on the parent.

It is due to division of cells by mitosis. the bud reattaches from the parent after some time and grows as an individual organism.

This method is common in simple organisms best example is "hydra".

Q. No. 2 Part (iii) MONO HYBRID CROSS

If a tall pea plant (TT) is crossed with a dwarf pea plant (tt) the the genotype and phenotype ration will be according to Mandelian "Law of Segregation"

The "F_1" generation will be all tall pea plants (Tt) showing dominant feature.

The F_2 generation will be as follow if F_1 is self fertelized:-

phenotype ratio :- 3 : 1 = tall : short

genotype ratio :- 1 : 2 : 1

Q. No. 2 Part (iv)

Roles Of Immunity System

Immunity system protect our body from pathogens. its roles are :-

- Recognition :- first the pathogen which enters the body is recognized.
- Activation response :- If the pathogen is harmful our body activate immune response to kill it.
- Memory :- The immune system stores its memory as if it ki enters again so it can be eliminated easily.

Q. No. 2 Part (v)

Gene	Allele
• Gene is the unit of reproduction which carries genetic information.	• The genes which occupy the same locus (position) in a chromosome are called alleles.
• Gene is a segment of DNA comprising a unique sequence of amino acid.	• Example :- genes for earlobes are "e" and "E" which are also alleles. they are written for earlobes as "EE" or "Ee".
• Example :- gene for attached ear lobes is (e) and for free ear lobes is "E".	

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Q. No. 2 Part (vi) **Bronchitis**

It is the inflamation of the air passage such as bronchi or brochioles.

Causes :-

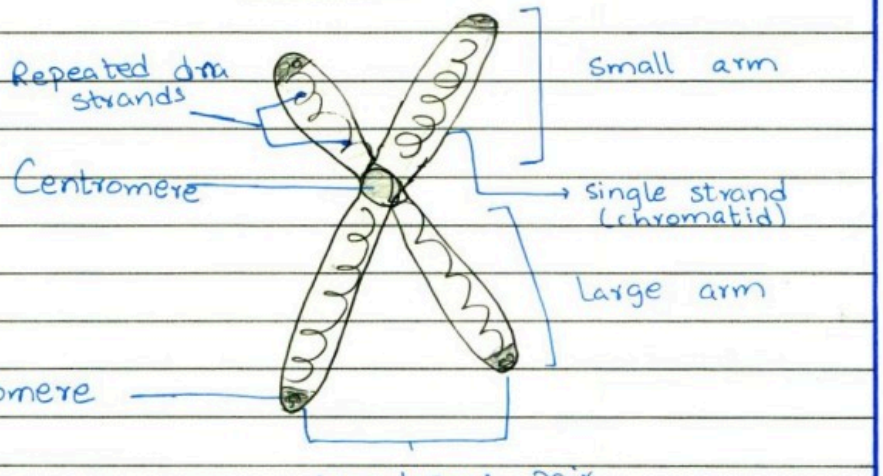
It can be caused by any internal infection which causes caughing and breathlesness.

Symptoms :-

It's main symptom is the secretion of access mucus from the goblet cells.

Q. No. 2 Part (vii) **"Chromosome"**

"Diagram"



Q. No. 2 Part (viii) Medical Benefits

→ Medicines from marine animals are:-

1) Trabetedin derive from venom of cone snail is used to treat chronic severe pain.
2) Products of marine organisms are widely used to treat cancer and diabetes.
3) Anthrax is used to treat skin allergies.

Q. No. 2 Part (ix)

Pathogens and their Diseases.

Pathogen	Name	Disease
• Bacteria	Selmonella typhi	Typhoid.
• Viruses	Covid - 19 Sars Cov - 2	Corona virus (Covid-19) disease.
• Parasite	Ascaris	Ascariasis

Q. No. 2 Part (x)

Composition Of Inspired and Expired Air

Component	Inspired air	Expired air
• Oxygen	21 %	16 %
• Carbon dioxide	0.04 %	4 %
• Nitrogen	79 %	79 %
• Dust	Variable	Little if any
• Temperature	Variable	about body temp
• Water droplets	Variable	Concentrated

Q. No. 2 Part (xi)

Glomerular Filtration

When the blood enters the nephron glomerulus at high pressure some of the elements present in blood such as urea, uric acid, salt, nutritients and water are filtered from the blood and passes to bowmans capsule this filtration is called glomerular filtration. after filtrations the components present in blood are called gromerular filtrate.

Q. No. 3 (Page 1)

"Diabetes"

Diabetes is a type of metabolical disorder that occurs in the body. It is due to lack of fiber rich food. It is a chronic disease.

"Types"

Diabetes type 1 :-

It is a metabolical disorder in which insulin producing cells in the body (Beta cells) are destroyed causing high sugar level in blood. It can be handled by taking regular injections of insuline.

Diabetes type 2 :-

A metabolical disorder in which insuline resistance occurs. The insuline produced by beta cells is not excepted by the blood causing the sugar level in blood to rise.

Gestational Diabetes:-

It occurs maily during pregnancy. It is acute and solve on its own after delivery.

Q. No. 3 (Page 2)

Effects :-

Short term :- Blured vision, slow healing wounds, increased urination etc.

Long term :- High cholesterol level, nerve damage, rating damage, high uric acid level, high level of lipid.

Q. No. 4 (Page 1)

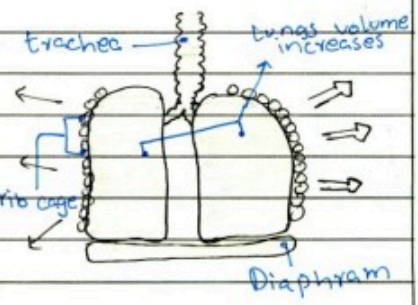
Breathing

Breathing is a mechanical process by which living organism take in oxygen rich air and exhale carbon dioxide. Taking in air is called inhalation and getting rid of air is called exhalation.

Inhalation :-

- The Intercoastal muscles contracts and the diaphram moves downward.
- Rib cage move upward and outward.
- Volume inside the lungs increases so the pressure decreases.
- The air from outside the body gets inside due to low pressure.

Inhalation Diagram

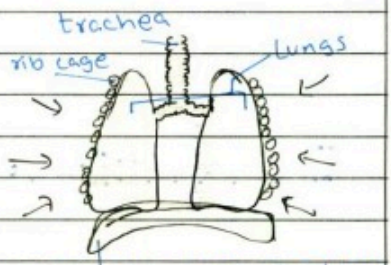


Q. No. 4 (Page 2)

Exhalation :-

- Inter coastal muscle relaze and the diaphrame move upward and domed shape.
- The ribcage move invard and downward
- The pressure inside Lungs increases due to decrease in volume.
- The air inside the Lungs move outside due to high pressure.

Diagram



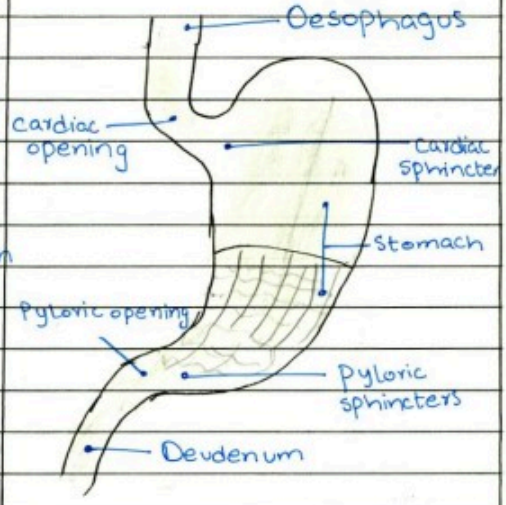
domed shape diaphram

Q. No. 5 (Page 1)

"STOMACH"

The human stomach is a "digestive organ" which is roughly "J shaped". food from the Oesophagus enters the stomach. The opening between "oesophagus" and stomach is called "cardiac opening". contain sphincters known as "cardiac sphincters".

Diagram



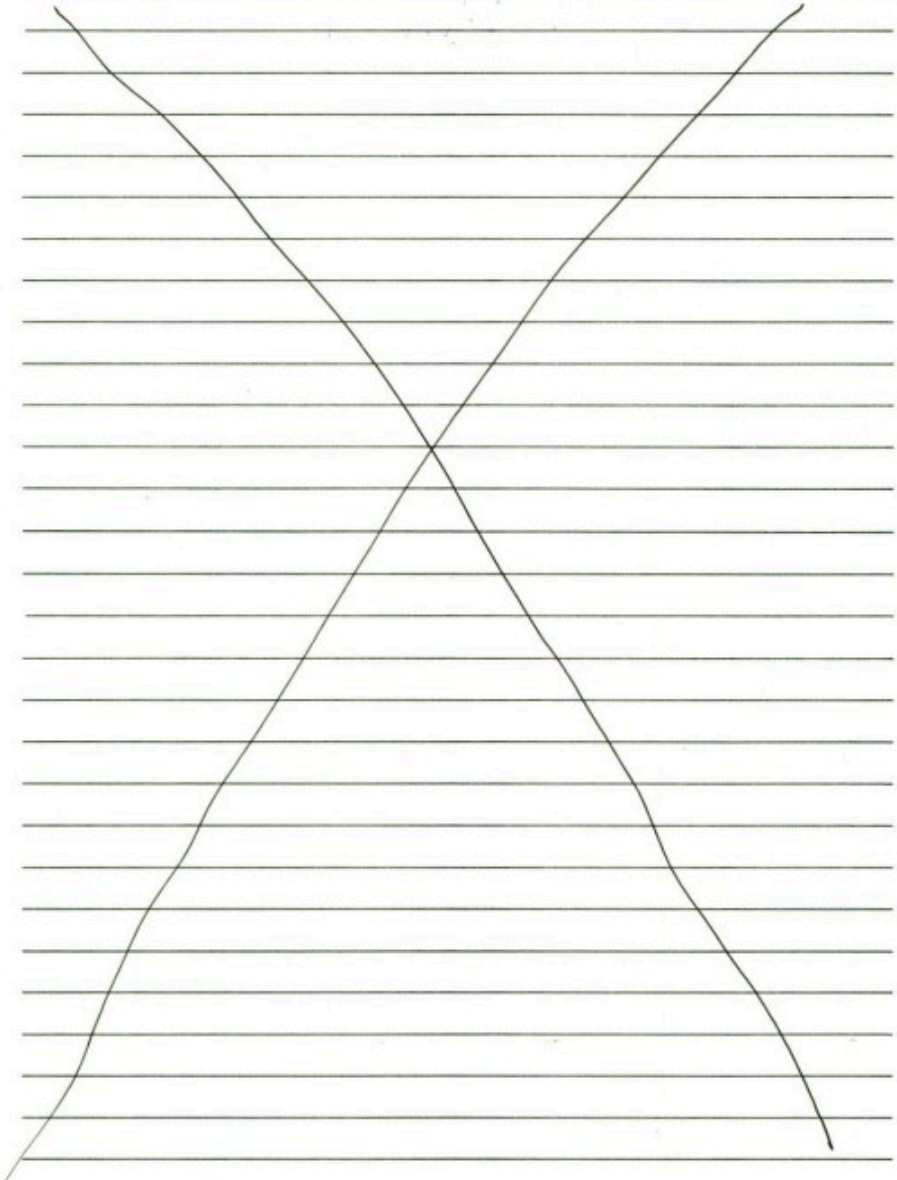
The opening of stomach with the Deudoneum is called "pyloric opening". which is guarded by "pyloric sphincters".

The walls of the stomach are covered with mucus layer which prevent it from degratation.

Inside the stomach food is digested by hydrochloric acid and enzymes.

After breakdown of food the food passes from the stomach through the "Deudenum".

Q. No. 5 (Page 2)



Q. No. 6 (Page 1)

DIALYSIS

The process of removal of waste products such uric acid and urea from the blood is called Dialysis. There are two types of dialysis Heamodylasis and peritoneal dialysis.

Hemodylasis :-

In this process two catheters are inserted in the arm throug which blood flows through tubes to "dialyzer". The dialyzer have dialysis membrane through which the waste products in the blood are filtered and goes to dialysis fluid. The dialysis fluid contain salt and sugar so the sugar in blood do not passes to fluid. The cleaned blood then passes from the second cathetor to patients body.

Peritoneal Dialysis :-

In this the dialysis fluid is directly inserted in patients body into peritoneal cavity. The peritoneum of the

Q. No. 6 (Page 2)

peritoneal cavity serve as the dialysis membrane. and urea is passed to the dialyser fluid. after some time the dialysis fluid is removed. This type of dialysis can be done at home about 3 times a day.