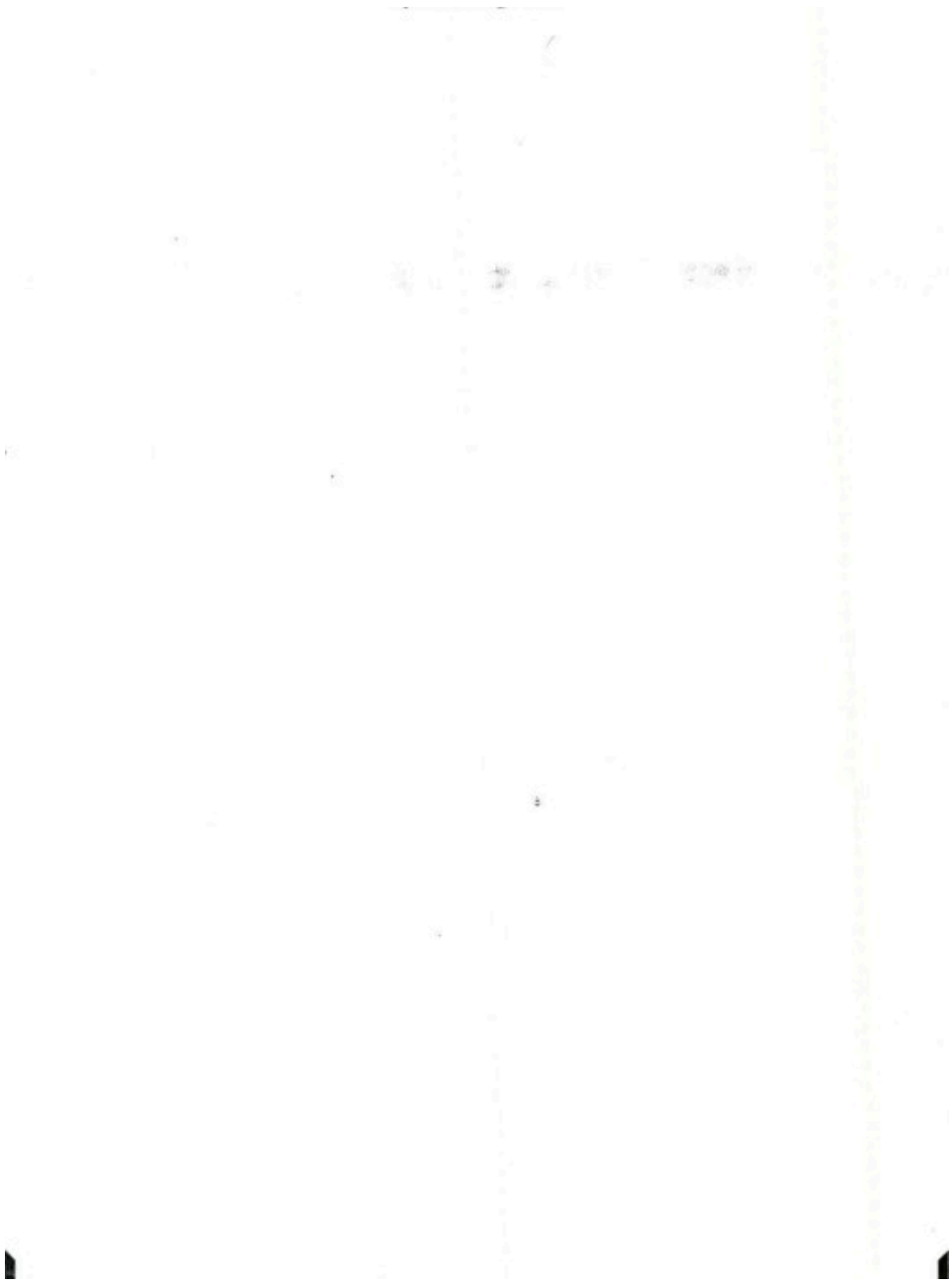


Use for rough work

Q. No. 2 Part (i) Types of Neurons

Sensory Neurons: Sensory Neurons are those Neurons that Sense a stimuls in the Recepotr and Carry that stimilus to the Spinal cord. They have one dendrite and one axon.

Inter neuron: Inter neurons are Present in the Brain and spinal Cord. They serve as a Link between Sensory neuron and motor neuron. They have many dendrites but only one axon.

Motor neuron: Motor neuron carry messages from the Brain and spinal Cord to the effector or muscle. They have many dendrites and axons.

Q. No. 2 Part (ii)

It type of Reproduction shown is know as Budding. It is a mode of Asexual Reproduction.

Budding: In this process a tiny outgrowth foorn on the parent by mitosis. The cells keep dividing by mitosis and forms a bud on the the parent. eventually the bud releases it self from the parent or stays attached. e.g Budding in Hydra.

Q. No. 2 Part (iii) F1 generation Cross Fertilization

homozygous Tall pea plant ♀ TT X t t♂ homozygous short pea plant

1/2 T 1/2 T 1/2 t 1/2 t

♀ \ ♂	1/2 t	1/2 t
1/2 T	1/4 Tt	1/4 Tt
1/2 T	1/4 Tt	1/4 Tt

Results

Phenotype : 100·1. tall pea plant

Genotype : 100·1. heterozygous tall Pea plant.

Q. No. 2 Part (iv)

The role of liver in digestion is that **produces Bile** which is stored by the gall bladder. Bile breaks down fats by converting it into fattay acids.
so liver **produces Bile** which **digests** ~~fatt~~. Liver also stores excess glucose in the form of glycogen.

Q. No. 2 Part (v)

Treatment of Myocardical Infraction

1) Coronary artery Bypass Surgery: Myocardical Infraction can be treated by coronary artery Bypass Surgery In this proceger vein from an other Body part is grapheted on the cornary artery to restore Blood flow.

2) Angioplasty: It is the Mechcical winding of the coronary arteries.

Prevention of Myocardical Infraction:

1) Avoid Smoking
2) Avoid food rich is chlastrol and salt.
3) Exersice
4) Avoid oily food.

Q. No. 2 Part (vi)

Bronchitis: It is the inflamation of lining of the walls of the Bronchioles and Bronchi by long term irration.

Causes of Bronchities: Bronchities is caused by Smoking, long term Exposure to irritants and viral infection.

Symptoms of Bronchitis: Symptoms of Bronchitis include coughing, Excess secreation of mucous from globet cells.

Treatment: The infection will go away on its own, one shoud do the following for some relife. Take rest, Drink plenty of water, take medicien if yaur doctor thinks you have infection, Avoid Smoking.

Q. No. 2 Part (vii) Spermatogensis: Spermatogensis is a continous event. it start after Pubbery and remaing constant till life. Some cells in the semiferous tubles keep dividing by mitosis to from Spermatogonia. Some of these Spermatogonia develop into Primary Spermatocyte. These Primary Spermatocyte undergo first stage of Meosis (MeosisI) and develop into two halopid Secondary spermatocyte. These Secondary Spermatocyte undergo second stage of meosis and Produce four haploid spermatids. These Spermatids are non-motite and undergo change in their nuclie to Become motile. There nuclues shrinks. Acrsome formed, mitoo condrial ring and tail foom. and they become motile and form Sperms.

Q. No. 2 Part (viii) 1) Ingury: A Blood vessel gets injured and Bleeding starts

2) Constriction of Blood vessl: The Blood vessel constricts to reduce Blood loss.

3) Platelet activation: The plalelets at that site get activited and signals other plalatets. The activited plalates stick to the injury site.

4) Release of clotting factors: Plateles and the cells around the site, start to release clotting factor such as fibrogen which clumps to the injury site forming a Blood clot and stoping the Bleeding.

Q. No. 2 Part (ix) Calcutation of mean and mode

Months	Jan	Feb	Mar	Apr	May	Jun
Patients	9	13	22	14	22	20

Calculation of Mean

total no of entries = n = 6

total no of Patients = x = 100

$$\text{Mean} = \frac{\Sigma x}{n} = \frac{100}{6}$$

Mean = 16.67

so Mean of the data set is 16.67

Calculation of Mode.

Mode is defined as the most Repeated value in the dataset so

Mode = 22

as 22 is the most repeated value in the data set.

Q. No. 2 Part (x)

Composition of Inspired and Expired air.

Factor	Isnpired air	Expired air
Oxygen	21·1·	16·1·
Carbon dioxide	0·04·1·	4·1·
Nitrogen	79·1·	79·1·
Watervapour	varabile	Sabrated.
Dust Pasticds	Varabile	Liffle if any
Temperature	Varabile	about Body temp

Q. No. 2 Part (xi)

Glomerular Filtration: when Blood enters the glomerous the Blood pressure cause the substance to diffuse out of the Glomerour wall into the Bowmans capsule. This process is known as glomerur filtration.

when Blood enters the glomerus. The Blood pressure is sufficent enough to cause, water, mineral ions and nutrients out of the Blood into the Bomans capusle. Blood molecules are too large to become part of this filtrate. This diffusion of mdeucles from the Blood through the glomerur wall into the Bowman capusle is Collectively known as Glomerur filtration.

Q. No. 3 (Page 1) Diabetes and its types and affects

Diabetes: Diabetes is a disease that causes high level of glucusoe in the Blood. Blood glucose level Risies.

Diabetes has three main types which are described as follows.

Type 1 Diabetes: Type 1 Diabetes is the type of Diabetes which is **genetic**. It is an **Auto immune condition**. It is present at the time of Birth of an indivival. It is by Birth. In this type of Diadetes. The Blood Sugar rises. This type of Diabetes can be **treated** by medication and taking **regular injection** of **insuline**.

Type 2 Diabetes: type 2 Diabetes is caused by **inslwin resistance**. In this type of Diabetes either insLwin production is stopped or& body gets insulin resistance. It is usally by as a **side effect** of **many drug** or Life style. This type of diabete can be **treated** by taking **mediciens** charging life style and sometime needs inslin injections.

Q. No. 3 (Page 2)

Gestational Diabetes: This type of Diabetes is caused by pregancy. It usally goes away after some time after divelivery. Treatment includes mediciens and life syte modification.

Effects of Diabetes on the human Body

Effects of Diabetes on the human Body are listed.

Short term Effects:

1) Increased thirst
2) frequent urination
3) Slow healing wounds
4) High Blood sugar.
5)

long term Effects

1) High Blood Pressure
2) Irregular Heat Beat
3) kidney Faliure
4) Blured vision
5) loss of Memory
6) Increased weight.

Q. No. 4 (Page 1)

Mechanism of Breathing

Lungs neither draw air in nor push it out but it is amploished by the contraction of diaphragm and the intercostal muscles. This is achived by ordinary air pressure. This is the mechansim of Breathing. Mechanism of Breathing has two Process Inhalation and Exhlation.

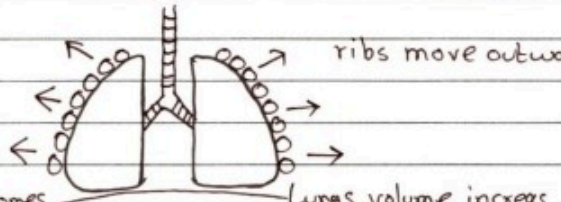
Inhalation: when you inhale air in the following charges occur.

1) The diaphagram muscles contract, making the diaphragm become flatened.

2) The intercostal muscles contract and pulls the ribs upward and outward.

3) The vol... of the lungs increases and Pressure inside the lungs decreases

4) Air moves from the nose into the lungs.



Process of Inhlation

Q. No. 4 (Page 2)

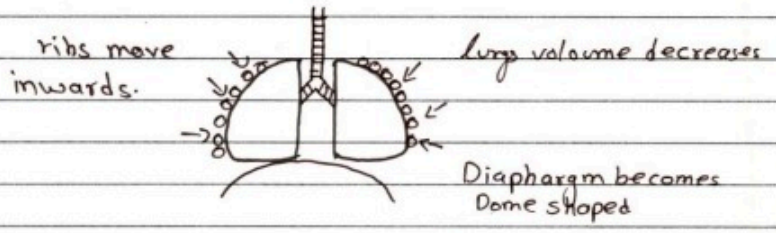
Exhalation: when you Exhale the following changes occurs.

1) The diaphragm muscles relax allowing the diaphragm to beome dome shaped

2) The intercostal muscles relax and the ribs move inwards and downwards

3) The lungs are compressed and the vol decreases and Pressure inside the lungs increases.

4) Air is forced out of the lungs through the nose or mouth.



Process of Exhalation

Q. No. 5 (Page 1) Structure and function of Stomach.

Stomach: The stomach is a dialated part of the digestive system which is responsible for killing bacteria in food and digesting protiens.

Structure of Stomach:

The stomach is a dialated part of the digestive track It is a **J-shaped organ**. **transverly placed** on the **left side** of the **abdominal cavity**. The stomach has **two opening** which is **guarderd by valves**. The top opening which connects with the esophagus is known as the **cardic opening** known as the **cardic splinter**. It is guarded by splincter musles. The Bottom opening into the Small intestine is known as **pyloric opening** and it is guarded by **pylonic splincter**. The stomach has layer of longitudional muscles which help in churing of food. Cells in the stomach produce gastric jucies which help in digestion.

function of Stomach The function of stomach is to Secret gastric jucices and allow the **digestion of protiens**.

Q. No. 5 (Page 2)

The stomach secrets the following to digestes and Perform its function.

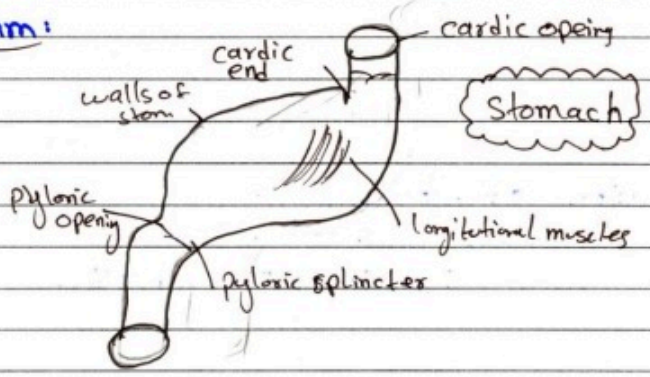
Mucusos: The cells of stomach in the walls secreat **mucus** which forms a **protective layer** and prevents the digestion of the stomach walls by pepsin.

HCL: The stomach also secreats HCl which **kills all micro organsims**. It also creates and acidic medium so that **pepsogien** can be **activated into pepsin**.

Pepsin: The stomach also Secrtes pepsogien which is the inactive form of **pepsin**. which **digestes protiens** into chains of amino acids.

Renin: It is only fornd in **infants** 0-6 months. It is a **protien** digesting enzyme (**Casine**)

Diagram:



Q. No. 6 (Page 1)

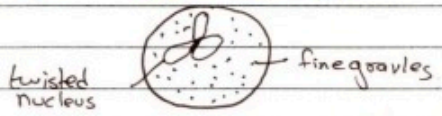
Types of white Blood Cells

White Blood cells. These are the largest type of Blood cells. They have a life span of 1-3days. There are two types of white Blood Cells

1) Granular leckocytes
2) Agranular Leckocytes

Granular leckocytes: Granular lecokytes are those the of lecokytes which have **fine granules** in their **cytoplasm**. Granular leckocytes have a **varible shaped nucleus**. They are are of three types.

1) Neutrophils: Neutrophils are granular lecokytes They have a **twisted nucleus** and granules in their cytoplasm. Their function is to ~~enfet~~ **englf pathogens** by **phago cyotsis**.



Netrophils

2) Basophils: Basophils are another type of granular lecocytes They **protect** us **agints forigen invaders**. They also have varible shape nucleus.



Basophil.

Q. No. 6 (Page 2)

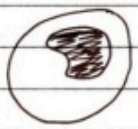
Ensophils: They are responsible for making antibodies.



Ensophil.

Agranular lecokytes: Agranular lecokytes have no granules in them. They further have 2 types. Their nucleus is round.

Monocytes: Monocytes are the largest type of leckyctes. They enfulg diseased cells by phagocytosis.



monocyte

Lympocytes: They also englif pathogens by phagocotisis.



Lympocytes

