Q. No. 2 Part (i) سوال نمبر 2 جز (i)

Calories in food:

Sr. No.	100gm of food	Calories
1-	Wheat	348
2-	Potatoes	100
3.	Brinjal	005

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Q. No. 2 Part (ii) سوال نمبر 2 جز (ii)

Role of lipids:

Lipids play very important role in human body.

1- Through lypases enzymes, fats are broken down into glycerol or fatty acids.

2- When they broke down, they release energy.

3- Supplied energy to every cell of body and our body works.

If these enzymes are not present in human body, our body cells became weak and can't work properly.

Q. No. 2 Part (iii) (iii) سوال نمبر 2 جز

Role of genetic engineering in agriculture: Genetic engineering play very important role in field of agriculture. Provide pesticides to save crops from attacks of insects, fungal pathogens or diseases for better yield crops. our food production about 10–30% destroyed by diseases so, with its help we save our crops.

Q. No. 2 Part (iv) (iv) سوال نمبر 2 جز

Principles of first aid: Basic principles of first aid includes:

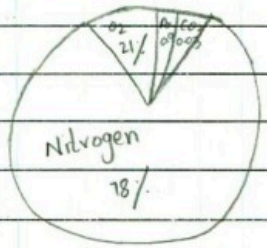
1- Restoration of airway
2- Restoration of breathing
3- Restoration of blood circulation.

Q. No. 2 Part (v) سوال نمبر 2 جز (v)

Composition of atmosphere.

Air consist of 78% of nitrogen, 21% of oxygen and 99% of volume of air near the earth. Other gasses are 0.9% argon or carbon dioxide 0.03%. In addition to these gasses, there are suspended liquid droplets or solid particles in the air. Pie chart is as follows:

Pie chart:-



Q. No. 2 Part (vi) سوال نمبر 2 جز (vi)

Effects of deforestation:

Some effects of deforestation includes:-

1) It has proven a great national
2) It causes global warming.
3) It badly impacts on climate due to which annual rainfall has decreased.
4) It effects on soil fertility.

Q. No. 2 Part (vii) (vii) سوال نمبر 2 جز

Role of tube wells:

Pakistan has vast irrigation system. But due to shortage of rainfall, there is accute problem for water irrigation. So tube wells used all over the Pakistan to provide water to the crops.

Q. No. 2 Part (viii) (viii) سوال نمبر 2 جز

Laser differ from ordinary lights:

Laser light is differ from ordinary lights.

Laser light	Ordinary light
1- It has high intensity	It has low intensity.
2- It has single wave length.	It has multiple wave length.
3- It travels in one direction with little spreading.	It travels long distances quickly.
4- Examples:. laser pointers, CD/DVD players etc.	Examples:. candle, bulb or tube light etc.

Q. No. 2 Part (ix) **Objectives of PNP:** سوال نمبر 2 جز (ix)

Main objectives of Pakistan's nuclear program are as follows:

1) National security or detterence
2) Peaceful use of nuclear energy
3) Scientific or technological development
4) Human resources development

Q. No. 2 Part (x) **Ultrasound:** سوال نمبر 2 جز (x)

Ultrasound employes high frequency sound waves above 20KHz. Ultrasonic are produced by quartz crystal used to vibrate at required frequency. These high frequency sound waves used for many purposes:

1) To detect objects under the water.
2) Measure depth of sea.
3) To determine source of pain, swelling or infection in parts of body.

X-rays don't have these abilities, that's why ultrasound preferred over X-rays.

Q. No. 2 Part (xi) سوال نمبر 2 جز (xi)

Ecosystem: A place or a system where humans, plants or animals live together is called ecosystem. Plants prepare food or other compound for humans and animals to survive. Animals exhale CO_2 that plants use to prepare food.

Q. No. 2 Part (xii) سوال نمبر 2 جز (xii)

Plastic recycling:

Plastics are major part of wastes now a days. Recycling of plastic is relatively difficult because of the mixing of different types of plastics. During plastic recycling, plastic wastes are cut into peices, then melted and converted into small pellets. These pellets can be remolded into sheets or desired shapes.

(Section C)

Q. No. 3 (Page 1) سوال نمبر 3 (صفحہ 1)

Human blood:

Blood is main transporting fluid of human body. It supplies all essential substances to every cell of body and collects wastes from them and transport to those parts from where these wastes are to be excreted. It's two main parts are as follows:

1- Plasma (liquid part) 55% by volume
2- Cells (different cells) 45% by volume

Plasma: It is liquid part and constitute 55% blood by volume. It's composition is as under as:

Water → 90%
Protiens → 7-8%
other organic or inorganic substances → 2-3%

It play very important role in human body:

1- Transport of inorganic iron.
2- Help in blood clotting.
3- They produce antibodies which save us from diseases.

Blood Cells: It constitute 45% blood by volume. There are three types of blood cells that are as follows:

1- Red Blood Cells (Erythrocytes)
2- White Blood Cells (Leukocytes)
3- Platelets (Thromobocytes)

Q. No. 3 (Page 2) سوال نمبر 3 (صفحہ 2)

RBC: It is stands for "Red Blood Cells." Each cubic millimeter contains 5 million RBC. Hemoglobin is present in RBC. Hemoglobin function is that is gives red colour to the blood and oxygen to every cell of body. The average age of RBC is 120 days. They are also called Erythrocytes.

$$C_6H_{12}O_6 \longrightarrow 6CO_2 + 6H_2O + \text{energy}$$

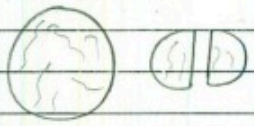
WBC: It stands for "white Blood cells." They are colourless or irregular in shape and have a prominent nucleus between them. Each cubic millimeter contains 7000-8000 white blood cells. They save us from diseases in two ways:

1. They engulf or digest bacteria or viruses and kill or destroy them.
2. They produce antibodies that kill bacteria or viruses. They are also called Leukocytes

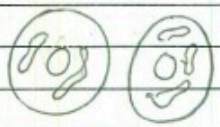
Platelets: Platelets are also called thrombocytes. They are much smaller than red blood cells or white blood cells. They are fragments of bone marrows without nucleus. They stop the blood flowing out from the damaged vessels or help in coagulation of the blood.

Q. No. 3 (Page 3) Diagrams: سوال نمبر 3 (صفحہ 3)

RBC:



WBC:



Platelets:



Q. No. 4 (Page 1) سوال نمبر 4 (صفحہ 1)

Fat soluble vitamins:

Vitamins are essential for life. our body also need vitamins for working. Vitamins are devided into two groups that are as follows:.

1- Fat soluble vitamins
2- Water soluble vitamins.

Vitamin "B, B_{12} or C" is called water soluble vitamins. Vitamin "A, E, D and K" are called as fat soluble vitamins. Fat soluble vitamins are as follows:.

Vitamin A: This vitamin helps in growth of body particularly in the children. It plays very important role in human body. It's defeciency leads of weakness It is found in wheat, maiz, beet, bean, fish, eggs, butter and fruits. It's defeciency also cause laziness.

Vitamin D: This vitamin also play a vital role in human body. This vitamin helps the body in consuming calcium. It's defeciency leads to weakness of bones. our skin synthesize vitamin D in sunlight. It is found in ground nuts, chicken, fish, butter etc.

Vitamin E: This vitamin helps in normal

Q. No. 4 (Page 2) working of the nervous system. In the alesence of vitamin E vitamin A and C can't work properly. It is found in butter, fish etc and also found in salad, cabbage, radish, beet, soy bean etc.

Vitamin K: This vitamin helps in coagulation of blood. It is found in blood forming tissues. It's deficiency leads to malfunction of the liver. It is found in pulses, eggs, chicken etc.

Q. No. 4 (Page 3) ..... سوال نمبر 4 (صفحہ 3)

Q. No. 5 (Page 1) سوال نمبر 5 (صفحہ 1)

SPARCENT: This is stands for "Space and atmospheric research center." SPARCENT has devisions explained as follows.

IR: It is stands for "inospheric research" devision. It is engaged in studies concerning the behaviour of the inosphere and its effects on radio wave propagation or associated geomagnetic studies.

ESS: It is stands for "environmental satellite studies". It is engaged in research studies or atmospheric studies. It includes study about atmosphere, atmospheric pollution etc.

RSA: It is stands for "remote sensing applications". It is helpful in remote sensing data.

SC: It is stands for "satellite communication". It is helpful for us. Through this we communicated with satellites and collect data from satellites about space. It associated geomagnetic studies.

Q. No. 5 (Page 2) سوال نمبر 5 (صفحہ 2)

Q. No. 5 (Page 3) سوال نمبر 5 (صفحہ 3)