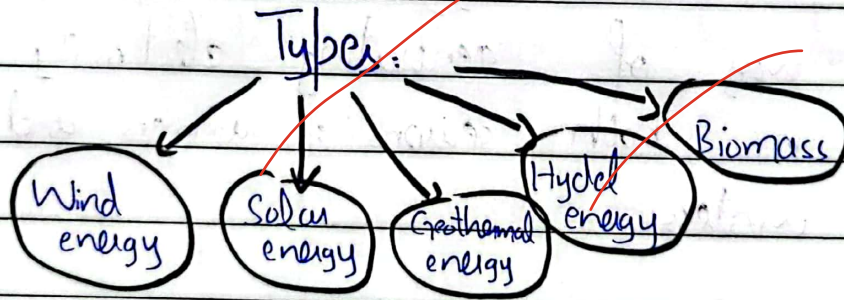


: Question 2:

Part A.

Renewable Energy Resources:

"The energy which is generated from natural factors such as wind, sun, water etc. is called renewable energy and the sources from which it is produced are called renewable energy resources."



Importance of Renewable energy for environment:

The renewable energy sources are significant for our environment due to following reasons:

⇒ As the renewable energy is derived

of natural sources, so it can easily be replenished.

⇒ Renewable energy sources are very inexpensive and economical.

⇒ Renewable energy doesn't result in any harmful elements that can be hazardous for our environment.

## Solar energy:

In solar energy, the sun's radiation can be used to generate electricity.

Solar energy is an effective way of generating electricity in both seasons: summers and winters.

2



## : Part C :

### Saturated fats:

The fats which are solid at room temperature are called saturated fats.

### Examples:

- ⇒ processed foods like burgers, pastries etc.
- ⇒ red meat contains saturated fat

### Importance:

Although high intake of saturated fat can be hazardous for the body, but still saturated fat is necessary for our body if and only if it is taken in appropriate amount.

### Unsaturated fats:

The fats which are usually liquid at room temperature are called unsaturated fats.

## Examples:

⇒ Olive oil, fish, nuts and seeds are the primary sources of unsaturated fats.

## Importance:

Unsaturated fats are vital for our health because they help to reduce cholesterol level in the body and ultimately prevent the risk of heart diseases. So, unsaturated fats should be a part of our diet.

## Part D:

### Water Soluble vitamins:

The vitamins which are soluble in water are called water soluble vitamins.



## Examples

The water soluble vitamins are vitamin B and vitamin C. Vitamin B is further composed of various vitamins, making it vitamin B complex.

### Water soluble vitamins

<u>Vitamin</u>	<u>Source</u>	<u>Deficiency</u>
B <sub>1</sub> (Thiamine)	legumes, whole grain, beans	beriberi
B <sub>2</sub> (Riboflavin)	dairy products, eggs, meat, legumes	cracks on corner of mouth, dry skin
B <sub>3</sub> (Niacin)	legumes, yeast, eggs, milk	anemia, irritability
B <sub>5</sub> (Pantothenic acid)	green leafy vegetables, yeast, beans	Fatigue, hair loss, anemia
B <sub>6</sub> (Pyridoxine)	meat, eggs, whole grain cereals	Anemia, insomnia, depression
B <sub>7</sub> (Biotin)	nuts, beans, vegetables	Hair loss, skin disorders

B <sub>9</sub> (Folic Acid)	fruits, green vegetables, avocados, broccoli	stomach problems, anemia
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B <sub>12</sub> (Cobalamin)	dairy products, eggs, meat	nervous system disorders
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Vitamin C	citrus fruits, leafy vegetables	Scurvy
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### Question 3:

#### Part A:

#### Vaccines:

"Vaccines are the material that helps your immune system to fight harmful germs and diseases."

⇒ Vaccine strengthens your immune system that it can easily recognize and neutralize any harmful



bacteria before it enters your body

## History of Vaccine:

The first vaccine was discovered by Louis Pasteur for rabies.

## Benefits of Vaccine:

- ⇒ Vaccine protects our body from diseases.
- ⇒ Vaccine strengthens our immune system.
- ⇒ Vaccines increase the number of antibodies.

## Part B:

### Balanced diet:

A balanced diet is a diet that consists of all the essential nutrients such as proteins, fats, carbohydrates, lipids, dietary fibre, which

are essential for the growth of the body.

## Main Components of balanced diet:

### Carbohydrates:

It is the main source of energy and it is vital for health.

### Proteins:

These are also source of energy which helps in muscle repair and recovery.

### Fats:

Fats are also a source of energy in relation with vitamins.

### Vitamins:

Both water soluble and fat soluble vitamins are important because they play important role in chemical reactions in the body.

(2)



## Part D:

### Carbohydrates:

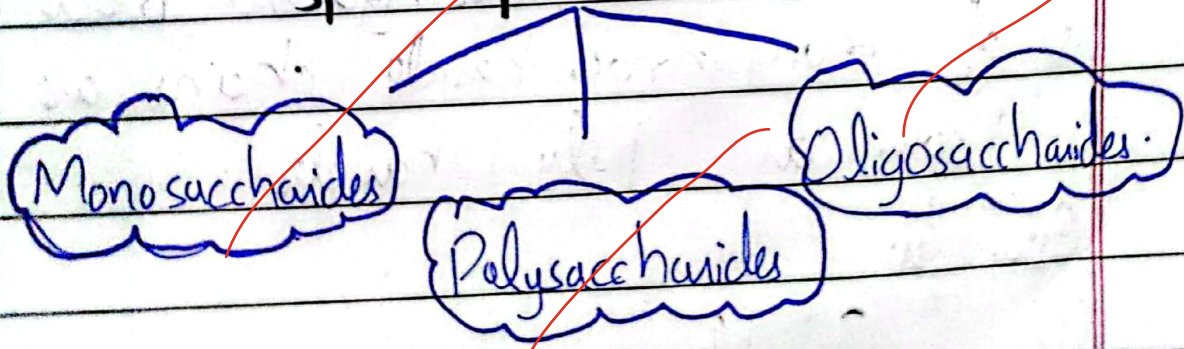
Carbohydrates are derived from two words: 'carbo' meaning 'carbon' and 'hydrate' meaning 'water'. Combinedly, it forms hydrated carbon.

⇒ Carbohydrates are the main source of energy and essential component of balanced diet.

### Empirical formula:

The empirical formula of carbohydrates is  $C_x(H_2O)_y$ .

### Types of Carbohydrates.



### • Monosaccharides:

The carbohydrates made up of only one molecule are called monosaccharides.

e.g

examples of monosaccharides are glucose and fructose

### • Oligosaccharides:

The carbohydrates made up of 2 to 9 monosaccharides are called oligosaccharides.

examples:

Sucrose, maltose are examples of oligosaccharides.

### • Polysaccharides:

The carbohydrates made up of many monosaccharide chains are known as polysaccharides.

Examples:

Examples are starch and glycogen etc.



2.5