

SECTION-I

Q.4

(a)

Ans:

These are available sources of renewable energy in Pakistan:

1. Wind energy
2. Solar energy
3. Hydropower
4. Geothermal energy
5. Biomass and Biofuels.

These are the Policy options to utilize the sources of renewable energy for Present energy crisis:

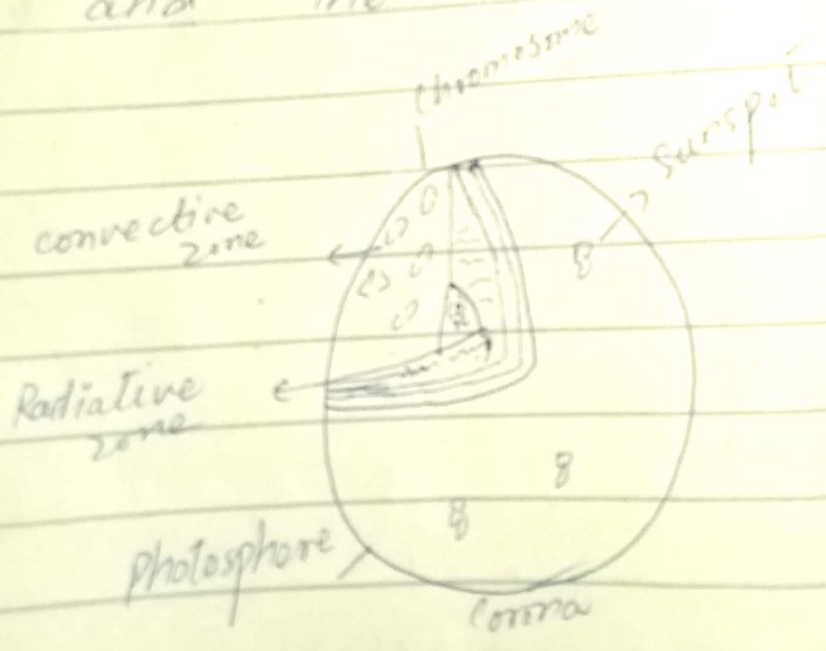
1. Alternative energy resources
2. Energy conservation
3. Energy Efficiency

(c)

Structure of sun:

Sun is a star. A star is a huge ball of gases, mostly hydrogen and helium. Nuclear fusion reaction inside the star release enormous amount of energy.

There are three parts of the sun's interior: The core, the radiative zone, and the convective zone.



Structure of The sun

Core:

The core is at the center. It is the hottest region where the nuclear fusion reaction inside the reaction that power the sun. It is the only section of the sun that produces heat through fusion. The temperature is 15 million degree Celsius.

Radiative zone:

The next part of the sun is radiative zone. Its name is derived from the way energy is carried outward through layer, carried by photons as thermal radiation.

Convective zone:

The third part of the sun's interior is convective zone. Its name is derived from the way energy is carried outward through this layer, heat moves

through upward convection.

Q.5

(C)

Carbohydrates:

Carbohydrates are the human body key source of energy, providing 3.9 calories of energy per gram. When carbohydrates are broken down by the body, glucose is produced. General formula of carbohydrate is $C_m(H_2O)_n$.

Types of Carbohydrates:

Carbohydrates can be classified into these following types:

- 1 Monosaccharides
- 2 Oligo saccharides
- 3 Polysaccharides.

Monosaccharides:

Monosaccharides

are often called simple sugar. They are simplest sugar and cannot be hydrolyzed. They are subdivided into trioses, tetroses, Pentoses, Heptoses etc. General formula of monosaccharides is $C_n(H_2O)_n$.

Oligosaccharides:

Oligosaccharides are compound sugars that yield upto 2 to 10 molecules of the same or different monosaccharides on hydrolysis.

General formula of oligosaccharides is $C_n(H_2O)_{n-1}$

Polysaccharides:

Polysaccharides are complex sugars yield more than 10 molecules on hydrolysis. They are further classified on the basis of molecules of monosaccharides on hydrolysis. General formula of Polysaccharides is $(C_6H_{10}O_5)_n$

Balanced diet:

Balanced diet is a diet which include right amount of energy like carbohydrates, vitamins, fats, minerals, lipids and dairy products for development and normal functioning of the body.

"Let thy food be thy medicine".

Hippocrates

Benefits of balanced diet:

These are the benefits of balanced diet:

- 1 Meet the nutritional demands of the body and prevent malnutrition.
- 2 Maintain normal body functions.
- 3 Boost The immune system

and optimise cell repair -
↳ Prevent from diseases -

SECTION - II

Q.7

(c)

Sol:

Given: Age of 5 students = 20, 22, 21, 21, 23

Required:

Mean, median, mode = ?

Mean of 5 students age = 20, 22, 21, 21, 23

$$\bar{x} = \frac{x_1 + x_2 + x_3 + \dots + x_n}{n}$$

$$\frac{20 + 22 + 21 + 21 + 23}{5} = \frac{107}{5}$$

$$\boxed{\text{Mean} = 21}$$

Mode of 5 student's age = 20, 22, 21, 21, 23

$$= 20, 21, 21, 22, 23$$

$$\boxed{\text{Mode} = 21}$$

Median of 5 students age = 20, 22, 21, 21, 23

$$= 20, 22, 21, 21, 23$$

$$\boxed{\text{Median} = 21}$$

Mean, Mode, Median of 5 students
age = 21 **Ans:**

(b)

Circumference of a circle

$$C = \pi d$$

$$d = 2r$$

$$d = 2(4\text{cm})$$

$$d = 8\text{cm}$$

$$C = \pi d$$

$$C = (3.14)(8\text{cm})$$

$$\boxed{C = 25.12\text{cm}} \text{ Ans}$$

Q.8:

(a)

Brother is written as = QDGSNQA
SISTER is written as = ?

Sol:

SISTER is written as = QDSRHR

(b)

Missing term: 1, 2, 6, 21, —

Sol

$$1 \times 1 + 1 = 2$$

$$2 \times 2 + 2 = 6$$

$$3 \times 6 + 3 = 21$$

$$4 \times 21 + 4 = 88$$

Missing number = 88

Missing term = 1, 2, 6, 21, 88 Ans