

GENERAL SCIENCE AND ABILITY

Q: Differentiate between the following:

(i) Microscope and Telescope

Microscope

Telescope

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| <ul style="list-style-type: none">It is used for observing distant ^{and} magnifying images of tiny objects.In this case, object is placed within the focal length of convex lens.It produces a larger version of the actual image. | <ul style="list-style-type: none">It is used for observing distant images of heavenly bodies i.e. stars and planets.In this case, the object is placed beyond the focal length of objective lens and has small aperture.It produces a smaller version of the actual image. |
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ii) **Antibodies**

Antibiotics

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| <ul style="list-style-type: none">They are effective against bacteria, viruses, or other chemicals.Antibodies protect the body against | <ul style="list-style-type: none">They are effective against bacteria only.They kill and inhibit the growth and |
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diseases.

- They are produced by the immune system in response to foreign substances.

development of bacteria.

- These are the drugs that inhibit growth of bacteria.

iii) Battery

- A combination of two or more cells makes a battery.
- They have larger and higher capacity.
- It stores electrical energy and can be recharged.

Cell

- A cell is a unit of positive and negative electrodes.
- They have smaller and lower capacity.
- It converts chemical energy into electrical energy.

iv) Isotopes

- Isotopes are different atoms of the same element.
- They differ from each other due to the number of neutrons.

Isomers

- Isomers are different compounds with the same molecular formula.
- They differ from each other due to arrangement of atoms.

- Isotopes of a single element have the same chemical behaviour, but the physical properties may differ.
- Isomers with the same chemical formula differ in both chemical and physical properties.

v) Sedimentary Rocks

- They are formed by sediments derived and deposited by various agents.
- They are non-crystalline rocks.
- They contain fossils e.g. coal, oil etc. e.g. Chalk, rock salt

Metamorphic Rocks

- They are formed when igneous and sedimentary rocks are subjected to high temperature and pressure.
- They are mostly crystalline in nature.
- ~~They~~ Fossils do not survive in these rocks. e.g. slate, quartz

(vi) Insulin

- It is a hormone secreted by beta cells of pancreas.

Glucagon

- It is a hormone secreted by alpha cells of the pancreas.

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| <ul style="list-style-type: none"> It is secreted in response to high blood sugar level. | <ul style="list-style-type: none"> It is secreted in response to low blood sugar level. |
| <ul style="list-style-type: none"> It makes muscle, red blood cells and fat cells to take up glucose in the form of blood. | <ul style="list-style-type: none"> It functions to cause the liver to release stored glucose from its cells into the blood. |

vii) Renewable sources of energy

- These are resources which get replenished and are restored in nature.

- They are also called inexhaustible resources.

- They are environment-friendly.
e.g: air, wind, solar water.

Non-Renewable sources of energy

- These sources do not get replenished in nature.

- They are also called exhaustible resources.

- They cause pollution.
e.g: minerals, fossil fuels.