

# BIOLOGICAL SCIENCES

## CLASS - XII

### Unit : Biology and Human Welfare

#### Chapter : Health and Diseases

1. 'All immunogens are antigens but all antigens are not immunogens'— why?

**Ans.** Foreign substances, usually proteins, peptides but sometimes also may be polysaccharides and lipids, which on entering the body of a living organism result in production of antibodies are called antigens. Some antigens then become attached to the antibodies to form a complex and undergo several pathways – cell-mediated and/or humoral immunity to produce an immune response in the body. These antigens are also called immunogens. However, there are some antigens which are unable to produce such an immune response even though they can get attached to antibodies. Thus they do not qualify as immunogens. This is why it is said that all immunogens are antigens but all antigens cannot be called immunogens.

2. Write the differences between Antigen and Antibody.

**Ans.**

Features	Antigen	Antibody
<b>Definition</b>	A foreign substance which on entering the body stimulates the formation of antibody is termed as antigen.	A substance which is formed due to the entry of antigen in the body, is protein in nature and helps in destroying the antigen is termed as antibody.
<b>Nature</b>	Chemically protein or complex carbohydrate in nature.	Always chemically protein in nature.
<b>Location</b>	Remains dissolved in body fluid or in cell membrane.	Remains dissolved in blood plasma.
<b>Role</b>	Produces diseases in the body.	Prevents diseases in the body.