Passive Immunity **Definition:** Passive immunity is the short-term immunity that results from the introduction of antibodies from another person or animal.**Vaccination:** Receiving a vaccine for diseases like measles, mumps, and rubella (MMR) stimulates the immune system to produce antibodies and memory cells, providing long-term protection.### Herd Immunity **Definition:** Herd immunity is the indirect protection from an infectious disease that occurs when a large percentage of a population becomes immune to the disease, thereby reducing its spread.**COVID-19 Vaccination:** Widespread vaccination against COVID-19 can reduce transmission, protecting individuals who are unable to be vaccinated or who have weaker immune responses.**Dengue Virus Serotypes:** Infection with one serotype of the dengue virus may provide partial immunity to other serotypes, though it can also lead to more severe disease upon subsequent infections (antibody-dependent enhancement).**Measles Vaccination:** When a significant portion of the population is vaccinated against measles, it protects those who are not immune (such as infants or those with medical conditions preventing vaccination).**Maternal Antibodies:** Newborns receive antibodies from their mothers through the placenta before birth and through breast milk after birth, providing them with temporary immunity against infections.**Immunoglobulin Therapy:** Patients exposed to certain diseases (like rabies or hepatitis B) are given immunoglobulins, which contain antibodies to help protect against these diseases.### Active Immunity **Definition:** Active immunity is the long-lasting immunity that results from the production of antibodies by the immune system in response to the presence of an antigen.### Cross-Immunity **Definition:** Cross-immunity occurs when exposure to one pathogen provides immunity to a related, but different, pathogen.**Cowpox and Smallpox:** Exposure to the cowpox virus provides immunity against smallpox.**Natural Infection:** After recovering from chickenpox, a person's immune system will remember the virus and provide long-term protection against reinfection.This was the basis for the first smallpox vaccine.**Examples:** 1.**Examples:** 1.**Examples:** 1.**Examples:** 1.2.2.2.2.