Vidya Bhawan Balika Vidyapeeth Lakhisarai

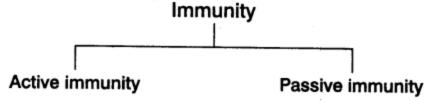
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Sub. Biology

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6. Acquired immunity is as following two types:



Develops due to contact with pathogen or its antigen. Slow but long lasting. No or few side effects. Takes time to elicit response, e.g. immunity developed by vaccination Develops when readymade antibodies are injected into the body.

Fast but lasts for only few days.

May cause side effects.

Effective when immune response has to be faster, e.g. injections of tetanus, colostrum secreted by mother during initial days of lactation, etc.

- **7. Vaccination and immunisation** The principle is based on the property of memory of immune system.
- (i) Vaccination is the process of introduction of weakened or inactivated pathogens or proteins (vaccine) into a person to provide protection against a disease.
- (ii) Immunisation is a process by which the body produces antibodies against the vaccine (primary response) and develop the ability to neutralise pathogens during actual infection (secondary response), i.e. the body become immune to that antigen or infection.
- (iii) Vaccine generates memory B and T-cells that recognise the pathogens on subsequent exposure and produce an intense immune response.
- (iv) In case of requirement of quick immune response like tetanus infection, preformed antibodies are injected into the patient. This is called passive immunisation.
- (v) Recombinant DNA technology has produced antigenic polypeptides of pathogen in bacteria or yeast. This allowed large scale production of vaccine, e.g. hepatitis-B vaccine from yeast, etc.