The Immune System – includes all parts or organs of the body that help in the recognition and destruction of foreign materials.Passive immunization (patient is given ready preformed antibodies form of immunotherapy) Active immunization (patient is vaccinated with a killed or attenuated microbe to form antibodies by itself.Lymphoid organs can be divided as: 1– Primary Lymphoid Organs 2– Secondary Lymphoid Organs Primary Lymphoid Organs include (Thymus and Bone marrow) T & B Cells Secondary Lymphoid Organs include (Tonsil,Lymph node, Spleen, Peyer's patches, Appendix and Tissue lymphatic ) The immune system is typically divided into two categories innate (non specific) and adaptive or acquired (specific) First–Line Defenses (Non Specific defence) (Innate Immune System ) –The body's first line of defense against pathogens uses mostly physical and chemical barriers such as; Skin – acts as a barrier to invasion.Examole of second line of defence; Phagocytic cells (WBCs & Macrophages) This will result in what is called an Inflammatory response (Cardinal signs of inflammation) causes : Redness – due to capillary dilation resulting in increased blood flow Heat – due to capillary dilation resulting in increased blood flow Swelling – due to passage of plasma from the blood stream into the damaged tissue Pain – due mainly to tissue destruction and, to a lesser extent, swelling.Classification of Antibodies (Immunoglobulins) Immunoglobulin M (IgM) * Immunoglobulin G (IgG) * Immunoglobulin A (IgA) * Immunoglobulin D (IgD) * Immunoglobulin E (IgE) Humoral and Cellular Immunity Humoral and Cellular Immunity In the humoral immune response (B lymphocytes), soluble proteins called antibodies (immunoglobulins).For each type of pathogen, the immune system produces cells that are specific for that particular pathogen (Antibodies) Active immunity : is the resistance (synthesis of antibodies) developed by an individual, as a result of an antigenic stimulus .Adaptive (Acquired) immunity(Specific Mechanisms of Defense) (antibody formation) Adaptive immunity refers to antigen–specific immune response.Immunity is divided to; Active immunity : it is organism antibodies production which formed by pathogenic induction.Leukocytes (WBCs) are central to all immune responses.