**NAME: EBITIBITUWA DIVINE LAYEFA**

**COURSE: MEDICAL SURGICAL NURSING II**

**MATRIC NO: 18/MHS02/203**

**LEVEL: 300 LEVEL**

**ASSIGNMENT**

1. **EXPLAIN THE ROLE OF IMMUNE SYSTEM.**
2. **DESCRIBE THE TWO TYPES OF IMMUNITY.**
3. **EXPLAIN THE DIFFERENT TYPES OF ANTIBODIES AND THEIR ROLES.**

**ROLE OF IMMUNE SYSTEM**

  **Immune system** consists of cells, tissues, and molecules that mediate resistance to infections

**The role of immunity system** is to protect the body from any foreign matter that might cause any damage or homeostasis imbalance i.e. when an organism is threatened by microorganism, viruses or cancer cells, the immune system acts to provide protection.

**TYPES OF IMMUNITY SYSTEM**

1. **INNATE (NON-ADAPTIVE):** It is the first line of immune response and it relies on mechanism that exist before infection, it’s based on genetic makeup and has rapid response with no memory for subsequent exposure e.g. natural killer cells like neutrophils, mast cells, basophils, macrophages etc.
2. **ACQUIRED (ADAPTIVE):** It is the second line of response and relies on mechanism that adapt after infection, it is handled by T and B lymphocytes and responds more slowly with anamnestic memory.

 **Types: Natural acquired active immunity e.g.** immunity from infection.

  **Natural acquired passive immunity e.g.** antibodies transferred from mother to fetus.

  **Artificially acquired active immunity e.g.** immunity from vaccination.

  **Artificially acquired passive immunity e.g.** immunity acquired by injection.

**TYPES OF ANTIBODIES AND THEIR ROLES**

 Antibodies are proteins in the immune system which are meant to attack an antigen

**Types**

1. IgG
2. IgM
3. IgA
4. IgD
5. IgE
6. IgG: 1. Structure is monomer and can cross the placenta. Neutralizes against microbes and toxins. Enhances phagocytes.

Protects fetus and newborn.

1. IgM: Structure is pentamer and cannot cross placenta.

 Used to detect early phase of infection

 Effective against microbes and agglutinating antigens.

1. IgA: Structure is dimeric.

 Localized protection of mucosal surfaces.

 Provides immunity to infant digestive tract.

 Sero-diagnosis of tuberculosis.

1. IgD: Structure is monomer and present on surface of B lymphocyte.

 It initiates immune response.

 Its roles are unclear.

1. IgE: Structure is monomer.

 Plays a role to helmintic parasites.

 Sero-diagnosis to infectious and non infectious allergic reaction.