**Mid-term exam (451 Immunology)**

**Name: Un. No:**

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**جامعة اللملك سعود**

**كلية العلوم**

**قسم النبات والأحياء الدقيقة**

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**Q1: Choose the correct answer in the following statement: (14 marks)**

**1- Which antibody has a strong avidity to antigen binding by around 107 times?**

1. IgG
2. IgM
3. IgA
4. Fab

2- **What type of variation in a population is present in some individuals but not others? Mostly are due to single amino acid differences.**

1. Isotypic variation
2. Adiotypic variation
3. Allotypic variation
4. Hyper variation

**3- Which antibody has the ability to cross the placenta and fix complements?**

1. IgM
2. IgG
3. IgA
4. IgD

**4- Which statement is true about IgA?**

1. Found on the surface of circulating B lymphocytes with IgM
2. Predominant Ig in mucosal secretions eg. saliva and colostrum
3. Predominant antibody of a secondary immune response.
4. Most efficient complement fixing antibody

**5- Which chemical components have the property of a strong immunogenicity and are considered a T- dependent antigen?**

1. Polysaccharides
2. Lipids
3. Proteins
4. Hapten

**6- Active regions of an antigen that binds to antigen-specific receptors on lymphocytes or to secreted antibodies.**

1. Epitope
2. Antibody
3. Antigen binding site
4. Fc receptor

**7- β2- macroglobulin and a long α chain are both main components of……………**

1. T cell receptor
2. B cell receptor
3. MHC I molecule
4. MHC II molecule

**8- Which statement is true about MHC class II molecule?**

1. Expressed by most nucleated cells
2. Bind peptides from exogenous antigens
3. Peptides are 8-11 amino acids in length
4. Restriction element for CD8+ T cells

**9- Sites of intense B-cell proliferation, selection, maturation and can be found in primary and secondary lymphoid follicles.**

1. Germinal centre
2. Bone marrow
3. Thymus
4. Peripheral blood

**10- The central lymphoid tissue where T cells maturation is………..**

1. Tonsils
2. Thymus
3. Spleen
4. Payer’s patches

**12- One of the features of adaptive immune response below is false.**

1. Antigenic Specificity
2. Immunologic memory
3. Self/ Non-Self Recognition
4. First line of defence against infection

**13- A cascade of plasma proteins that provide rapid defence against infectious agents.**

1. Antibody
2. Immunogen
3. Complement
4. Toll-like receptor (TLR)

**14- The main function of CD4+ Th2 cells is ……….**

1. Helper cells for macrophages activation
2. Helper cells for cytotoxic T cells
3. Helper cells for B cells activation
4. Non of the above

**Q2: Describe in details the basic structure of antibody (with draw) and functions? (3 marks)**

Good luck

Dr. Ayman S Mubarak