



Subject : Immunology and Hematology
Division : Biotechnology
Examiner : Prof. Dr. Ghassan M. Sulaiman

Class : 3 year
Time : 3 hours
Date :

IMMUNOLOGY

Answer five Questions of the Followings (5 marks of each)

Q1:- Give the full name and the function of the following abbreviations.

- (1) GM-CSF (2) IgA (3) RIA (4) APC (5) TCR

Q2:- What are MHC molecules? What are human MHC molecules called? Their components? and what is their function?

Q3:- What are the adjuvants? Define and then mention their types

Q4: Discrimination between Gell and Coombs reactions using the following items:

- (1) Common name (2) Principle of reaction (3) one example of disease.

Q5: What is the principle of Mancini Assay? Support your answer with suitable diagrams.

Q6: How the phagocytes attract to of site infections? Explain your answer with stages of phagocytosis and diagrams of processes.

HEMATOLOGY

Answer five Questions of the Followings (5 marks of each)

Q1: Match between correct items in column A and column B

- | | A | B |
|---|---|--------------------------|
| 1- Secondary sideroblastic anemia | A | A- B6/pyridoxine |
| 2- Accumulation of Iron in the mitochondria | C | B- Sideroblastic anemia |
| 3- Schilling test | F | C- Pernicious anemia |
| 4- Anemia of chronic disease | D | D- Tuberculosis |
| 5- Nonmegaloblastic anemia | B | E- Stress erythropoiesis |

