

**Research topics on Immunology & Virology course for 3<sup>rd</sup> year 2019/2020 (by law 2016) :**

1. Humanized monoclonal antibodies (Explain what are monoclonal antibodies, how they are produced in a humanized form, what are the applications of these antibodies, advantages and disadvantages....)
2. Immune system in cancer (How does the immune system react with cancer cells)
3. Immune system in viral infection (How does the immune system react with different viruses)
4. Vaccination strategy and its application in Egypt (define vaccine, types of vaccines, components of vaccines, how to produce vaccine, vaccination schedule in Egypt)
5. Cytokine storm (definition, causes, management)
6. Treatment of viral infections with plasma containing specific antibodies from cured patients. (Principle, regulations, advantages, disadvantages, example of reported viral infections that were reported to be treated in this way).
7. HCV. (Different genotypes, sub-genotypes, common genotypes and sub-genotypes in Egypt, history of development of treatment strategies in Egypt, trials and obstacles for development of vaccine for HCV).
8. HBV. (Different genotypes, sub-genotypes, common genotypes and sub-genotypes in Egypt, history of development of treatment strategies in Egypt, correlation of different stages of infections with development of liver fibrosis, cirrhosis, hepatocellular carcinoma).
9. HIV. (Different genotypes, sub-genotypes, history of development of treatment strategies, post exposure prophylaxis, and trials and obstacles for development of vaccine for HIV).
- 10.COVID-19. (Symptoms, complications that lead to entry into intensive care unit, mode of transmission, different diagnostic techniques, treatment protocols in Egypt and worldwide, trials and obstacles for development of vaccine).

