

Title: Applied Immunology [3-0-0-6]

Content :

1. Generation of immune responses: overview, component of immune system, T cell activation, dendritic cell activation and licensing, T cells and DCs interaction
2. T cells: effector T cells, CTLs and their differentiation and roles in different diseases
3. Allergy and Autoimmune disorder: overview and diseases pathology and roles of immune system in pathogenesis of allergy and autoimmune disorders,
4. Cancer immunology: roles of immune responses in cancer prevention, overview of current and investigational immunotherapy.
5. Infectious diseases: introduction of various infectious diseases caused by different pathogen including bacteria, virus, helminthes etc.
6. Immunotherapy: Available biologics (recombinant proteins and antibodies) for the treatment of numerous immune disorders, methods for generation of biologics for industrial applications (hybridoma technology).
7. Immunodiagnostics: flowcytometry, ELISA and multiplex assay, assay development,

Texts / References:

- Immunobiology: the immune system in health and disease, 8th edition by C A Janeway, Garland Publishing company, 2014.
- Immunology. 6th edition by Janes Kuby; W.H. Freeman and Company New york (2014).
- Cellular and Molecular Immunology. 8th ed. A K Abbas, A H Lichtman, J S Pober, W B Saunders Company, 2014.