Infection - Defenses of the body - Year 3 Semester 1 Credits: 1

Duration: 17 Hrs.

Concept/topic	Objectives	Teaching/ Learning Activity	Time
2010-3/SBM-3/01			
1. Introduction to the defense system	1. State the need for a defense system 2. State how the defense system is divided into two arms; innate and adaptive 3. Sate the general features of a naive immune cell and compare it with the features of an effector cell 4. Define lipid and protein mediators of inflammation, cytokines and chemokines 5. Describe the process of recruitment of immune cells to the site of infection 6.Outline the main features of inflammation and explain it's role in the defense of the body	Lecture	1
2010-3/SBM-3/02			
2. Innate immunity	2. Describe the key features of the innate defenses of the body 3. Name the cells that are important in the innate immunity 4. Describe how the cells of the innate immune system identify a pathogen and destroy it 5. State the different arms of the innate immune mechanism; macrophage and neutrophil mediated killing, NK cell mediated killing and complement mediated killing	Lecture	1
2010-3/SBM-3/03			
3. Complement and the inflammatory response	1. Describe the overall arrangement of the complement system 2. Outline the key steps in complement activation 3. List the mechanisms of complement mediated killing 4. Describe the role of complement in the inflammatory process.	Lecture	1

2010-3/SBM-3/04			
4. Cells and organs of the immune system	1. Describe the anatomy and organization of the cells and organs associated with the defenses of the body 2. Explain the functional significance of the anatomical arrangement of the cells and organs associated with the defense of the body	Lecture	1
2010-3/SBM-3/05			
5. Antigen and the immune response	1. Define the term antigen 2. Describe the basis of recognition of antigen 3. Outline the process by which the response to antigen is amplified	Lecture SGD	1 1
2010-3/SBM-3/06			
6.Aquired immunity system and Cellular immunity	1. State the key features of the acquired immune system 2. State the need for and the basis of the acquired immune system 3. Describe the relationship between the innate and acquired immune systems 4. Describe the antigen presenting cells and their role in defense 5. Describe the migration of antigen presenting cells to regional lymph nodes upon activation. 6. Describe the T cell and their role in defense 7. Describe the main surface molecules present on T, B and antigen presenting cells. 8.. Explain the presentation of antigen to the T cell 9. Explain the role of the MHC in the immune system 10. Describe the process of activation of T and B cells 11. Describe the function of helper T cells, cytotoxic T cells and B cells 12. Define Th1 and Th2 responses 13. Explain the basis of immunological memory	Lecture SGD	3 1
2010-3/SBM-3/07			
7. Humoral Immunity	1. Describe the structure and function of antibody. 2. Explain the primary and secondary immune response 3. List the classes of antibody and state the specific function of each class. 4. Describe the role of antibody in protection of the body against infective agents.	Lecture	1

2010-3/SBM-3/08			
8. Development pathway of cells of the immune system	1. State the sources of the cells of the immune system. 2. Describe the pathway by which T and B cells mature 3. Describe the circulation of lymphocytes	Lecture	1
Dysfunction of immune system			
2010-3/SBM-3/09			
9. Hypersensitivity	1. Explain the basis of hypersensitivity reactions 2. Briefly describe the 4 types of hypersensitivity	Lecture	1
2010-3/SBM-3/10			
10. Autoimmunity and transplant rejection	1. Explain the basis of auto immunity 2. State with examples how autoimmunity contributes to the disease process 3. State different methods available to treat autoimmunity 4. Describe the immunological basis for transplant rejection	Lecture	1
2010-3/SBM-3/11			
11. Immunodeficiency	1. State reasons for failure of the defenses of the body (natural and aquired) 2. Classify the immunodeficiency disorders 3. Outline the effects of failure of the defenses of the body	Lecture	1

Names and departments of the teachers involved in the teaching programme:

Dept. of Microbiology

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Examination Format

Module	Credits	Total duration of examination	MCQ	SAQ
Infection – Defences of the Body	1	1 Hr.	½ Hrs	½ Hrs.