Syllabus

Course Name : Medical Microbiology	اسم المقرر: الأحياء الدقيقه الطبيه
Course Code & No : MAC 221	رقم المقرر ورمزه: ماك 221
Credits : 6 (4+2)	الساعات المعتمده: 6 (4+2)
Duration : 26 weeks	مدة المقرر: 26 اسبوع
Study year: 2th year	سنة الدراسة: الثانيه

4 =Theoretical
2 = clinical teaching / laboratory tutorial and practical

Revised by:
Course Development committee:

Name	Title	Position

TABLE OF CONTENTS

1. Introduction and Course Description

This course provides the medical student with the basic knowledge and practical skills in immunology and medical microbiology. This includes an introduction to the basic concepts of the structure and function of human immune system and the basic biology of micro- organisms of medical importance. Interaction of these micro-organisms with humans is studied as related to the pathogenesis and management and control of infectious diseases. We hope that you will find this attachment useful and enjoyable. To achieve the maximum benefit of this course; hard work and appropriate methods of learning are the keys for that target.

2. Prerequisites & Intended Students

This course is intended to students in the second year with the prerequisite of successfully completion of the first year, College of Medicine courses.

3. Course Aims and Objectives:

By end of the course the medical student should have:

3.1. Basic understanding of immune system.

3.2. Biological nature and diversity of microorganisms

3.3. Bacterial, Viral, Parasitic and Fungal host-parasite relationship.

3.4. Pathogenesis and clinical features.

3.5. Epidemiological feature of infectious diseases.

3.6. Proper use of clinical laboratory.

3.7. Specimen collection.

3.8. Request and interpretation of laboratory tests.

3.9. Judicious selection of antimicrobial agents.

3.10. Use and monitoring of antimicrobial therapy.

3.11. Use of Vaccine.

4. Course Contents

4.1. Summary of Course Contents

Immunology, Bacteriology, Virology, Mycology and Parasitology.

4.1.1. Fundamentals of immunology and host-parasite relationships.

4.1.2. Bacteria, and human diseases caused by bacteria.

4.1.3. Basic mycology and some fungal infections

4.1.4. Human parasitic infections.

4.1.5. Human Viral infections.

4.2 Details of Content

4.2.1 Immunology

4.2.1.IA. Lectures

4.2.1.1.Natural Immunity

4.2.1.2. The lymphoid system T-cells and B-cells.

4.2.1.3. Acquired immunity primary and secondary I.R.

4.2.1.4. Immunoglobulins structre and infection.

4.2.1.5. Cell-mediated immunity.

4.2.1.6. Hypersensitivity (H/S) I.

4.2.1.2. Practical/Tutorials

4.2.1.2.1. Antigen/antibody interactions/ The complement system

4.2.1.2.2. Hypersensitivity (H/S) II.

4.2.1.2.3. Immunity and infection/ Immunization.

4.2.1.2.4. Serological test in diagnosis

4.2.2 Bacteriology

4.2.2.1. Lectures

4.2.2.1.1. Introduction to the course and bacterial morphology

4.2.2.1.2. Bacterial physiology

4.2.2.1.3. Sterilization and disinfection

4.2.2.1.4. Normal flora, host parasite relationship and pathogenecity

4.2.2.1.5. Staphylococcal infections

4.2.2.1.6. Streptococcal infections

4.2.2.1.7. Mycobacterial infection

4.2.2.1.8. Corynobacteria and Listeria

4.2.2.1.9. Bordetella and haemophilus

4.2.2.1.10. Antibiotics

4.2.2.1.11. Enteropathogens (E.coli, Yersinia)

4.2.2.1.12. Bacterial genetics

4.2.2.1.13. Rickettsial infections

4.2.2.1.14. Bacillary dysentery

4.2.2.1.15. Gram negative infection (Pseudomonas, Klebsiella, Proteus)

4.2.2.1.16. Salmonella

4.2.2.1.17. Cholera, Campylobacter, Helicobacter pylori

4.2.2.1.18. G.I.T. infection and food poisoning

4.2.2.1.19. Meningococcal infections

4.2.2.1.20. Gonorrhoea

4.2.2.1.21. Anaerobic infection I: Tetanus and gas Gangrene

4.2.2.1.22. Anaerobic infectionII: Non-sporing anaerobes

4.2.2.1.23. Chlamydial infections

4.2.2.1.24. Anthrax and Plague

4.2.2.1.25. Leptospirosis and Mycoplasma.

4.2.2.2. Practical/ Tutorials

4.2.2.2.1. Bacterial Morphology, Microscopy, Staining

4.2.2.2.2. Sterilization, Disinfection, Bacteriological Culture Media

4.2.2.2.3. Staphylococcal

4.2.2.2.4. Streptococci

4.2.2.2.5. Mycobacteria

4.2.2.2.6. Corynobacteria, Haemophilus

4.2.2.2.7. Enterics I

4.2.2.2.8. Enterics II

4.2.2.2.9. Neisseria

4.2.2.2.10. Syphilis, Chlamydia

4.2.2.2.11. Anaerobes

4.2.2.2.12. Antibiotics sensitivity

4.2.3. Parasitology

4.2.3.1. Lectures

4.2.3.1.1. Introduction to Parasitology

4.2.3.1.2. Fascioliasis and Schistosomiasis I

4.2.3.1.3. Schistosomiasis II

4.2.3.1.4. Entomology

4.2.3.1.5. Malaria I

4.2.3.1.6. Malaria II

4.2.3.1.7. Taeniasis, Cysticercosis and Hymenolepis Nana Infection

4.2.3.1.8. Hydatid disease

4.2.3.1.9. Ascariasis and Enterobiasis

4.2.3.1.10. Hookworm, Trichuriasis and Strongyloidiasis

4.2.3.1.11. Amoebiasis and Giardiasis

4.2.3.1.12. Leishmaniasis

4.2.3.1.13. Trypanosomiasis

4.2.3.1.14. Onchoceriasis and Bancroftian Filariasis

4.2.3.2. Practical / Tutorials

4.2.3.2.1 Trematodes

4.2.3.2.2. Entomology I

4.2.3.2.3. Entomology II

4.2.3.2.4. Malaria

4.2.3.2.5. Cestodes

4.2.3.2.6. Intestinal Nematodes

4.2.3.2.7. Intestinal Protozoa

4.2.3.2.8. Tissue Nematodes

4.2.3.2.9. Tissue Protozoa

4.2.4. Mycology

4.2.4.1. Lectures

4.2.4.1.1. Fungal structure, reproduction and pathogenicity

4.2.4.1.2. Dermatophytoses

4.2.4.1.3. Mycetoma

4.2.4.1.4. Zygomycetous infection and systemic mycoses

4.2.4.1.5. Aspergillosis

4.2.4.1.6. Candidosis

4.2.4.2. Practicals

4.2.4.2.1. Fungal structure, Morphology and culture techniques

4.2.4.2.2. Representative pathogenic fungi in clinical speciemens and in culture, some diagnostic 18y2zculture, some diagnostics.

4.2.5. Virology

4.2.5.1. Lectures

4.5.1.1. Structure and classification

4.5.1.2. Pathogenesis of viral infection

4.5.1.3. Enteroviruses

4.5.1.4. Paramyxoviruses

4.5.1.5. Herpes simplex viruses and Varicella zoster

4.5.1.6. Cytomegalivirus and Epstein Barr Virus

4.5.1.7. Viral hepatitis 1

4.5.1.8. Viral hepatitis 2

4.5.1.9. Human Retroviruses 1

4.5.1.10. Arboviruses and slow viruses

4.2.5.2. Practicals/ Tutorials

4.2.5.2.1 Rota and Norwalk/ Structure and classification

4.2.5.2.2. Influenza/ types of tissue culture and cytopathic effects

4.2.5.2.3. Rubella/ serological diagnosis 1

4.2.5.2.4. Rabies/ serological diagnosis 2

4.2.5.2.5. Anti-viral drugs/revision

5. Students Assessment & Evaluation:

Students will be evaluated as follows:

1: Three Continuous assessment test (MCQ)
2: Two Practical Examinations
3: A final written examination (MCQ)

The final grade will be based on all these methods of assessment as follows:

	Bacteriology &Immunology	Parasitology	Virology	Mycology	Points
Continuous Assessment Test 1	15	-	-	-	15
Practical Examination1	10	-	-	-	10
Continuous Assessment Test 2	25	-	-	-	25
Continuous Assessment Test 3	-	4	3.6	2.4	10
Practical Examination 2	-	4	3.6	2.4	10
Final Written Examination	-	12	10.8	7.2	30
Total	50	20	18	12	100
%	50%	20%	18%	12%	100%

6. Resources:

References & Recommended textbooks:

6.1. Medical Microbiology & Introduction to Infectious Diseases. John C. Sherris, Published by Prentice Hall International, U.S.A. Latest Edition.

6.2. Medical Microbiology

David Greenwood, Published By ELST with Churchill Livingstone Latest Ed

6.3. A Colour Atlas of Infectious Diseases

R.T.D. Emod, Published by Wolfe Medical, London, Latest Edition.

6.4. A Colour Atlas of Microbiology

Olds, Published by Wolfe Medical, London, Latest Edition

6.5. Medical Parasitology

Markeyl Voge/ David, Published by W.B. Sunders Company, London, 7th Edition

6.6. Medical Virology

David O.Whitel Frank Fenner, Published by Academic Press, Inc., London, Latest Edition

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