Infection 2 - Year 3 Semester 2 Credits: 2

Duration: 45 Hrs.

Topic/ concept	Objectives	Time	Teaching/ learning activity	Department
Clinical microbiology and parasitology				
The pathogenesis of infections at different body sites and principles of diagnosis, treatment and prevention				
1. As applied to urinary tract infections	Be able to 1) Explain the pathogenesis of uncomplicated and complicated urinary tract infections 2) Explain the principle underlying microbiological diagnosis of UTI 3) Describe the methods of collection and transport of urine for culture 4) Outline principles of treatment and prevention of UTI	1 h	Lecture	Microbiology
2. As applied to skin and wound infections	Be able to 1) Describe the risk factors for infections of the skin 2) Describe the principles of classifying post operative wound infections 3) Describe the methods of collection and transport of samples for microbiological diagnosis 4) Outline principles of treatment and prevention	½ h	Lecture	Microbiology
3. Scabies	Be able to • Identify *Sarcoptes scabiei* mite • Outline the life cycle • Describe the pathological and clinical consequences of infection caused by this organism. • .State the principles underlying the prevention and the control of scabies Name the drug(s) used in the treatment	½ h	Lecture	Parasitology
4. Leishmaniasis	Be able to 1) .Name the parasite(s) causing human leishmaniasis in Sri Lanka 2) .Name the group ,stating the genus, of the arthropods transmitting human leishmaniasis in Sri Lanka	1 h	Lecture	Parasitology

	3) .Describe the breeding habitats of the vectors in Sri Lanka 4) .Describe the pathological and clinical consequences relating to infection with this parasite in Sri Lanka 5) Outline the management of cutaneous leishmaniasis in Sri Lanka naming the antileishmania drugs currently used			
5. As applied to muscular skeletal infections	Be able to 1) List infections of the muscular skeletal system 2) Explain the pathogenesis of osteomyelitis, septic arthritis and infections of muscles 3) Describe the methods of collection and transport of samples for microbiological diagnosis 4) Outline principles of treatment and prevention	1 h	Lecture	Microbiology
6. As applied to respiratory system	Be able to 1) List the infections which occur in the respiratory tract and associated organs 2) State the most likely organisms associated with infections at each site 3) Recall the source and virulent factors associated with respiratory tract infections 4) Describe the specimen (including mode of collection and transport) and diagnostic tests used to determine the aetiology of infections of the respiratory tract 5) Describe the principals of choosing antimicrobial therapy in treatment of respiratory tract infections	1 h	Lecture	Microbiology
7. As applied to cardio vascular system	Be able to 1) State the risk factors for infective endocarditis 2) Describe the pathogenesis of infective endocarditis 3) List the important pathogens and factors which contribute to these organisms causing infective endocarditis 4) Discuss how the pathogenesis of infective endocarditis contributes to the symptoms and signs of the disease and in selection of diagnostic tests	1 h	Lecture	Microbiology
8. As applied to gastro intestinal tract: Infective diarrheas (parasitic, viral and bacterial) and food poisoning	Be able to 1. List the causes of infective diarrhea and food poisoning 2. Describe the pathogenesis of infective diarrheas 3. Describe the pathological and clinical consequences of infection. 4. State the principles underlying the prevention and the control of parasitic diarrhoea. 5. Name the drugs used against these protozoa	2 h	Lecture	Microbiology or Parasitology

	6. State the key methods of diagnosis of infective diarrhea and food poisoning 7. Outline key methods in prevention of diarrhea and food poisoning			
9. Diarrhoeal diseases*	1. Objectives 1 – 7 of topic 7	1 h	SGD	Microbiolgy & Parasitology
10. Intestinal helminthiasis	Be able to 1. Name the pathogenic intestinal nematodes found in humans in Sri Lanka 2. Describe the pathological and clinical consequences met with in infection caused by these nematodes in humans 3. State the principles underlying the prevention and the control of intestinal helminthiasis 4. Name the antihelmintic drugs in common use and describe the mode of action of each 5. List the intestinal helminthes that cause malnutrition & learning disabilities in SL 6. Describe the major mechanism responsible for malnutrition in each infection 7. Describe the management of intestinal helminthiases	2 h	SGD	Parasitology
11. As applied to the CNS	Be able to 1) List normal protective measures of CNS 2) Discuss the methods of invasion of CNS by pathogens and pathogenesis of CNS infections (meningitis, encephalitis, encephalopathies, prion disease and brain abscesses) 3) Describe different types of meningitis 4) Describe different types of encephalitis and encephalopathies	1 h	Lecture	Microbiology
12. As applied to infections in pregnancy, foetus and neonate	Be able to 1. list common infections in pregnancy , the foetus and the neonate 2. describe factors which contribute to the risk of infection in these patient groups 3. outline key features of diagnosis, treatment and prevention	1/2 h	Lecture	Microbiology
13. Toxoplasma gondii	Be able to 1. Outline the life cycle of *Toxoplasma gondii* 2. List the modes of transmission of infection 3. Describe the spectrum of clinical manifestations 4. Describe the laboratory diagnosis 5. Describe the principles of management 6. Outline the prevention & control of infection	1/2 h	Lecture	Parasitology
14. Molecular diagnosis of infective disease *(viral, bacterial,	Be able to 1. describe the basis of molecular diagnosis 2. state the role of molecular methods in diagnosis of infective disease	1 h	Lecture	Microbiology or Parasitology

fungal and parasitic)				
15. As applied to sepsis	Be able to 1) defibe bacteraemia, septicaemia and septic syndrome 2) Describe laboratory diagnosis of bacteramia and septicaemia including collection, processing and reporting of appropriate specimen 3) Identify the sources of bacteramia and septicaemia 4) Describe the pathogenesis of septicaemia, septic syndrome 5) Discuss the pathogenesis of management of devise related infections, typhoid fever and brucellosis 6) Discuss the infectibe aetiologies, diagnosis and management of PUO	1 h	Lecture	Microbiology
16. Case scenarios – typhoid, fever and rash, post operative fever	1) Discuss the case scenarios given using microbiological concepts	1 h	SGD	Microbiology
17. Role of the laboratory in diagnosis of infective diseases	Be able to 1) List the common investigations that aid the diagnosis of infective diseases 2) Discuss the concepts of Sensitivity, specificity, positive predictive value and negative predictive value and apply it to common tests	1 h	Lecture	Microbiology
18. As applied to infections of the compromised host to include AIDS 19. – do -	Be able to 1) Explain the transmission and pathogenesis of HIV infection and AIDS 2) List the common opportunistic infections which occur in AIDS and the principles of diagnosis of these infections 3) Describe the principles of prevention of HIV infection and the progression to AIDS	1 h 2 h	Lecture Student seminar	Microbiology Microbiology & Parasitology
20. Emerging and re emrging infections in the immunocompetenet and immunocompromised patients	Be able to 1. Define emerging & re-emerging infections 2. List the emerging & re-emerging infections which may be important in SL & worldwide 3. Briefly describe the factors which pre-dispose to emergence & re-emergence of infections in immunocompetent & immuno compromised patients 4. Recognize the current handicaps when dealing with the risks of these infections. 5. Briefly describe the preventive aspects of these infections.	1 h	SGD	Microbiology & Parasitology
21. Malaria	Be able to 1) Name the parasites causing human malaria indicating those present in Sri Lanka. 2) Describe the life cycle 3) Describe the pathological and clinical consequences of the erythrocytic	1 h	Lecture	Parasitology

	cycle 4) Name the anti malarial drugs in common use and describe the mode of action of each			
22. Epidemiology and control of malaria	Be able to 1) Describe the preventive and control measures used in National Malaria Program in Sri Lanka 2) Describe the geographical distribution and seasonality of malaria in Sri Lanka 3) Explain the basis underlying this distribution	2 h	Lecture	Parasitology
23. Zoonotic diseases in Sri Lanka	Be able to 1) Define zoonoses & list the zoonotic diseases reported in SL 2) Causative agent, mode(s) of transmission, diagnosis, prevention & control of common zoonotic diseases commonly found in SL 3) Factors influencing incidence & prevalence of zoonotic infections 4) Principles of surveillance, prevention, control and elimination of zoonotic infections	1 h	SGD	Microbiology & Parasitology
24. Brancroftian filariasis	Be able to 1) Name the filarial parasites of humans indicating which are found in SL 2) Describe the geographical distribution of Bancroftian filariasis in Sri Lanka 3) Outline the LC of *W.bancrofti* indicating the infective, pathogenic & diagnostic stages. 4) Describe the phenomenon of 'periodicity of microfilaria' 5) Describe the pathogenesis & clinical features of Bancroftian filariasis 6) Describe the laboratory methods of diagnosis of lymphatic filariaisis 7) Name the antifilarial drug(s) used in Sri Lanka and describe the mode of action of each 8) State the principles underlying the prevention and the control of Bancroftian filariasis 9) Describe the preventive and control measures used in the National Filariasis Control Programme in Sri Lanka	1 h	Lecture	Parasitology
25. Collection and transport of specimen for common microbiological investigations 26.	1) Discuss the principals of collection and trans port of specimen for common microbiological investigations Be able to 1) Collect proper samples for 2) Arrange for proper transport 3) Interpret	1/2 h 1/2 1 h	Lecture Lecture SGD	Microbiology Parasitlogy Microbiology and parasitology

	Common microbiological tests			
27. MCQ session		1 h	SGD	Microbiology & Parasitology
28. SAQ session		1 h	SGD	Microbiology & Parasitology

Infection - (Year 3 Semester 2)
Module Summary

Department	Lectures (hrs)	SGD (hrs)	Student Seminar (hrs)	Total (hrs)
Microbiology	10 ½	9	2	
Parasitology	8 ½			
Total	**19**	**9**	**2**	**30**

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

Dept. of Microbiology
Prof. V.Thevanesam
Dr F. Noordeen
Dr V. Liyanapathirana
Dr N. Dissanayake

Dept. of Parasitology
Dr D. Iddawella
Dr R. Morel
Dr D. Attapattu

Examination Format

Module	Credits	Total duration of examination	MCQ	SAQ
Infection – 2	2	2 Hrs.	1 Hrs	1 Hrs.