Blood and Circulation Module – Year 3 Semester 1

Duration: 03 Weeks (15 days)

	Concepts	Objectives	Activity	Time	Department
1.	**2006-3/SBM-3/01** Introduction to ischaemia, infarction, thrombosis – stenosis / occlusion, embolism Atherosclerosis Reperfusion	Recall Objectives given in FCP			Pathology
3.	**2006-3/SBM-3/02** **Atherosclerosis** • different patterns of atherosclerosis • the clinical significance of atherosclerosis • the epidemiology and risk factors of atherosclerosis • the pathogenesis of atherosclerosis • the macroscopic and microscopic appearances of the atheromatous plaques and fatty streaks • Drugs	Pathology: recall , objectives given in FCP List the classes of lipid regulating drugs Describe the mechanism of action, pharmacokinetics and adverse effects of lipid regulating drugs Explain the principles involved in the selection of lipid regulating drugs in clinical practice		1 Hr	Pathology Pharmocology (1hr)
4.	**2006-3/SBM-3/03** **Hypertension** **Pathophysiology and end organ effects of hypertension** vascular pathology associated with hypertension • macroscopic appearance of hyaline arteriosclerosis and hyperplastic arteriosclerosis **Hypertensive heart disease** • To be able to describe pathogenesis, and macrosopic appearance of heart in systemic hypertension pulmonary hypertension • Imaging in HT • Drugs	outline the aetiology of hypertension describe the pathophysiology of hypertension. describe the pathological changes in large and small arteries in benign and malignant hypertension. outline the end organ effects due to hypertensive vascular changers eg. heart, kidney, brain. describe the pathological basis of the clinical symptoms due to involvement of these organs explain the role of imaging in hypertension. list the classes of drugs used in the treatment of hypertension describe the mechanism of action,		6Hrs	Pathology (2hr) Radiology(1hr) Pharmacology(2hr)

	Nuclear Medicine imaging in cardiovascular disease	pharmacokinetics, adverse effects and drug interactions of antihypertensive drugs Explain the principles involved in the selection of antihypertensive drugs in clinical practice *To provide the student with a understanding of organ physiology and its* *functions with regards to radioisotope uptake in health and disease by:* *a. myocardium* *b. renovascular system* correlate the radio isotope uptake with organ function in health and disease with respect to a myocardium b renovascular system			Nuclear Medicine (1hour)
5	**2006-3/SBM-3/04** **Metabolic Syndrome and Diabetic vascular disease**	1 describe the pathological changes in the vascular system in diabetic patients. 2 describe the clinical significance of theses changes. 1 Define metabolic syndrome 2 state other names given to metabolic syndrome 3 list the risk factors in metabolic syndrome 4 list the other conditions associated with metabolic syndrome 5 state the diagnostic criteria for metabolic syndrome 6 state the principles of management and prevention of metabolic syndrome		1hour	Pathology (SGLA) Medicine (1hr)
6.	**2006-3/SBM-3/05** **Vasculitides and Raynauds disease** • pathogenesis of non-infectious vasculitidis • the pathogenesis, macroscopic appearance of affected blood vessels in giant cell arteritis, Takayasu arteriris, polyarteritis nodosa, Kawasaki syndrome, polyangitis, Wegeners granulomatosis, thromboangitis obliterance and Raynauds disease	1 describe the pathogenesis of non-infectious vasculitis 2 describe the pathological changes in vasculitis and describe the clinical outcomes due to these changes. 3 outline the main pathological changes and clinical outcomes in the vasculitic diseases named here		1 Hr	Pathology

7.	**2006-3/SBM-3/06** **Aneurysms** • define and classify aneurysms • list the causes of aneurysm • pathogenesis and macroscopic appearance and clinical course of abdominal aortic aneurysms • pathogenesis and macroscopic appearnce of syphilitic aneurysms aortic dissection	1 define the lesion aneurysm 2 describe the pathogenesis of aneurysms. 3describe different morphological types of aneurysms. 4 describe the possible clinical outcomes and complications of aneurysms and describe their pathological basis. 5 describe pathogenesis, morphology, clinical outcome and complications of aortic dissection.		1 Hr	Pathology
8.	**2006-3/SBM-3/07** **Diseases of veins and lymphatics** • the pathogenesis of thrombophlebitis and phlebothrombosis • pathogenesis and effects of lymphangitis and lymphodema	1 describe the pathogenesis and clinical outcomes of thromboangitis and phlebothrombosis. 2 describe the pathogenesis and effects of lymphangitis and lymphoedema (recall, objectives given in FCP)		1h	Pathology
9.	**2006-3/SBM-3/08** **Ischaemic heart disease** • epidemiology, pathogenesis of IHD • role of fixed coronary obstructions, acute plaque change, coronary thrombus and vasoconstriction in coronary heart disease • pathogenesis of different types of angina • pathogenesis and macroscopic and microscopic appearance of different types of myocardial infarction • myocardial response to coronary arterial obstruction • the evolution of morphologic changes in myocardial infarction • consequences and complications of myocardial infarction • macroscopical changes of chronic ischaemic heart disease	1 outline the epidemiology of IHD 2 describe the pathogenesis of IHD 3 describe the role of fixed coronary obstructions, acute plaque change, coronary thrombus and vasoconstriction in coronary heart disease 4 describe the myocardial response to coronary arterial obstruction 5 name different types of angina and describe the pathological basis of them 6 describe the pathogenesis and morphogical changes in different types of myocardial infarctions. 7 describe the evolution of morphologic changes in myocardial infarction 8 describe the consequences and complications of		5Hrs	Pathology (2hr)

	• Drugs used in IHD	myocardial infarction 9 describe the basis and clinical significance of reperfusion injuries. 10 describe the pathological changes in chronic IHD and the clinical outcomes. List the classes of antianginal drugs Describe the mechanism of action, pharmacokinetics, adverse effects and drug interactions of antianginal drugs List the classes of antiplatelet drugs Describe the mechanism of action, pharmacokinetics and adverse effects of antiplatelet drugs List the oral and parenteral anticoagulants Compare and contrast unfractionated heparin and LMWHs Describe the mechanism of action, pharmacokinetics, adverse effects and drug interactions of oral and parenteral anticoagulants Explain the basis of monitoring anticoagulant therapy Describe the mechanism of action, pharmacokinetics and adverse effects of thrombolytic drugs 1 Define ischaemic heart disease 2 List the risk factors for ischaemic heart disease 3 List the types of ischaemic heart disease 4 describe the clinical manifestations of ischaemic heart disease 5 list the investigations in IHD 6 describe the electrophysiological changes in IHD 7 list the types of acute coronary syndrome 9 list the complications of acute coronary syndrome			Pharmacology (2hrs) Medicine (1hour)

10.	**2006-3/SBM-3/09** **Valvular heart disease** • valvular abnormalities caused by congenital and aquired conditions • pathogenesis and macroscopic appearance of the valves that has calcified (calcific Aortic stenosis) and in myxomatous degeneration (MVP) • pathogenesis, macroscopic microscopic appearances and effects of acute and chronic rheumatic heart disease • pathogenesis, macroscopic microscopic appearances and effects of infective endocarditis • conditions with non infective endocarditis (NBTE, Endocarditis of SLE	1. describe the pathogenesis of rheumatic fever and it's implications for diagnosis and management 2. state the risk factors for infective endocarditis 3. describe the pathogenesis of infective endocarditis 4. list the important pathogens and the factors which contribute to these organisms causing infective endocarditis 5. discuss how the pathogenesis of infective endocarditis contributes to the symptoms and signs of the disease and in selection of diagnostic tests. 1 outline the causes of valvular heart disease 2 describe common congenital cardiac valvular abnormalities 3 describe the pathogenesis and morphological changes in calcified valves (e.g. calcific Aortic stenosis) and myxomatous degeneration (MVP) 4 describe the pathogenesis of rheumatic heart disease 5 describe the clinical outcomes and complications of acute and chronic rheumatic heart disease and describe the pathological basis of them. 6 describe the pathogenesis and pathological changes of infective endocarditis. 7 describe the pathological basis of clinical outcomes and complications of infective endocarditis. 8 describe the non infective causes of endocarditis.		2Hrs	Pathology

11.	**2006-3/SBM-3/10** **Myocardial disease** • To know the causes, pathogenesis macroscopic and microscopic appearance of myocarditis • To be able to describe the different type of cardimaopathy and macroscopic appearance of heart in these conditions. • Tumours of the heart and blood vessels	1 describe the pathogenesis and pathological changes of myocarditis 2 describe the pathological basis of clinical outcomes and complications of myocarditis 3 describe the different types of cardiomyopathies 4 describe the pathological changes in these cardiomyopathies and their clinical significance. 5 list the common tumours of heart and blood vessels.		1 Hr	Pathology
12.	**2006-3/SBM-3/11** **Pericardial disease** • To know pathogenesis and the macroscopic appearance of pericardial effusion and haemopericardium • To be able to describe pathological changes in the serous pericarditis, Fibrinous and serofibrinous pericarditis, Purulent or suppurative pericarditis, haemorhagic pericarditis, caseous pericarditis. • To know the pathogenesis and macroscopic appearance of pericardium in adhesive mediastinopericarditis and constrictive pericarditis.	1 describe the pathogenesis of pericardial effusions and haemopericardium 2 describe the pathogenesis and pathological changes changes in serous pericarditis, fibrinous and serofibrinous pericarditis, purulent or suppurative pericarditis, haemorrhagic pericarditis and caseous pericarditis. 3 describe the pathological basis of clinical outcomes in these conditions. 4 describe the pathogenesis and pathological changes and clinical outcomes in adhesive mediastinopericarditis and constrictive pericarditis.		1Hr	Pathology
13	**2006-3/SBM-3/12** Cardiac arrhythmias	Out line the pathogenesis of cardiac arrhythmias Classify the antiarrhythmic drugs Describe the mechanism of action, pharmacokinetics and adverse effects of commonly used antiarrhythmic drugs		1h	Pharmacology
14.	**2006-3/SBM-3/13** Heart Failure (Clinicopathological correlation)	Recall general pathology processes oedema, congestion , hypertrophy and infarction. describe the chest X ray manifestations of heart failure. List the drugs used in the treatment of heart failure Describe the mechanism of action, pharmacokinetics and adverse effects of drugs used in the treatment of heart failure	Staff seminar	2hrs(L) SGLA	Medicine(1hrs) Radiology (1/2hr) Pharmacology(1/2 hr) Discussion (1/2hrs) Pathology

		1 Define heart failure 2 state the clinical features of heart failure 3 list the types of heart failure 4 state the causes of heart failure 5 describe the investigation of heart failure 6 outline the management and prevention of heart failure			

Blood & Circulation Module – (Year 3 Semester 1)
Module Summary

Department	Lectures (hrs)	Museum class (hrs)	SGD (hrs)	Total (hrs)
Pathology	12 ½			12 ½
Pharmacology	5 ½			5 ½
Radiology	1 ½			1 ½
Nuclear Medicine	1			1
Medicine	3			3
Total	**23 ½**			**23 ½**

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

Dept. of Pathology
Prof. N. Ratnatunga
Dr S Wijetunge
Dr R Waduge
Dr R.Gunawardena
Dr E Siriweera

Dept. of Pharmacology
Dr U Dangahadeniya
Dr Y Illangasekera

Dept. of Medicine
Prof. V.L.U.Illangasekera
Dr T Jayalath

Radiology
Dr. B. Hewavithana

Dept. of Microbiology
Prof. V.Thevanesam

NMU
Dr. J.M.C. Udugama

Examination Format

Module	Credits	Exam component and duration		
		MCQ	SAQ	Viva
Respiration and Blood and Circulation	2.5	1hr	1 ½ hrs	√