Concepts	Objectives	Time	Activity	Department
2018-SBM/MED3119/01 Tuberculosis	 The students should be able to; 1. Recall the general pathology of chronic inflammation 2. Describe the aetiopathogenesis of I ry tuberculosis and post primary tuberculosis. 3. Correlate the manifestations of TB in the lung with pathogenesis. 3. Contrast and compare the pathogenesis and clinical manifestations of iry and post primary TB 3. Enumerate the diagnostic tests for tuberculosis and discuss pathological basis and outcomes of these investigations. 4. Analyze clinico-pathological outcomes of TB using clinical scenarios. 	1hr 30 min	Lecture SGD, museum class	Pathology Radiology
2018-SBM/MED3119/02 Obstructive airway diseases I	 Identify the diseases categorized under COPD and explain the reasons Explain the actiopathogenesis of COPD Correlate the pathogenesis with manifestations in the lungs and clinical manifestations Discuss the pathology behind progression of CPOD and correlate with clinical outcomes and complications. Discuss the mechanisms of death in COPD. Describe the pathogenesis of asthma and correlate with type 1 hypersensitivity reaction Correlate clinical outcomes of Bronchial asthma with clinical outcomes, complications and investigations results. Compare and contrast broonchial asthma with COPD. Describe the atiopathogenesis,, clinical manifestations and complications of bronchiectasis Correlate the pathological basis of treatment options in Bronchial asthma (SCL) 	2hrs 30 min	Lecture SGD and museum class	Pathology Medicine

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	9. Analyse clinico-pathological outcomes of Obstructive lung			
	diseases using clinical scnarios			
2018-SBM/MED3119/03 Pneumonia and lung abscess	 Recall the infective microorganisms causing respiratory infections Explain the aetiopathogenesis of lobar and bronchopneumonia Correlate the pathologenesis of both types of pneumonia with changes in the lungs in each type of pneumonia. Correlate pathological changes with the sequelae and complications of pneumonia Correlate pathological changes with clinical manifestations, radiological manifestations, and investigation findings in pneumonia. Analyze clinico-pathological outcomes of pneumonias using clinical scenarios 	1hr 30 minutes	Lecture SGD and Museum class	Pathology Radiology Medicine
2018-SBM/MED3119/04 Restrictive lung diseases (interstitial and industrial)	 Identify that interstitial lung diseases is a group of diseases that share some common clinico-pathological features Discuss the common clinico-pathological features shared by interstitial &industrial lung diseases. Describe the common disease entities included in interstitial lung diseases and industrial lung diseases. Explain the pathogenesis of honey comb lung and correlate their clinical manifestation with pathological changes. 	1 hr	Lecture	Pathology
2018-SBM/MED3119/05 Neoplasia (lung, pleura and mediastinum)	 Recall chronic inflammation, metaplasia, dysplasia, carcinogenesis & spread of tumours Classify epithelial neoplasms of lung and pleura describe the aetiopathogenesis and morphological appearances of tumours of lung and pleura describe the modes of spread of these tumours Correlate the clinical manifestations of these tumours with the underlying pathology Outline the paraneoplastic syndromes associated with lung tumours and discuss their clinical findings. 	1hr 30 min	Lecture Demonstration SGD, Museum class	Pathology Radiology Medicine

2018-SBM/MED3119/06 Museum class respiratory diseases	 7.describe the diagnostic tests available for tumours of lung and correlate the pathological basis of using these investigations. 8. Analyse the clinic-pathological outocmes of these tumours using clinical scenarios 1. Identify the morphological changes in diseases of the respiratory tract using mounted specimens. 2. Correlate these findings with underlying pathological changes responsible and possible clinical and radiological outcomes. 	4 hrs 1 hr	Guided SGL Discussions	Pathology
SGDs	Analysis and correlations of lung diseases using clinical scenarios			
2018-SBM/MED3119/07 Radiological manifestations of lung diseases	 Describe common radiological manifestations of lung diseases Correlate these changes with pathological changes Analyse the radiological changes in the lungs using clinical scenarios 	1hr 30 mim	Lecture SGD, Museum class	Radiology Pathology
2018-SBM/MED3119 /08 Clinical manifestations of lung diseases	 Describe the common clinical manifestations of lung diseases Correlations of these manifestations with underlying pathology 	1hr 30 min	Lecture SGD and museum class	Medicine Pathology
2018-SBM/MED3119/09 Atherosclerosis and Peripheral Vascular Disease	 Define atherosclerosis Outline with reasons the risk factors for atherosclerosis Describe the lipoproteins that are responsible for atherosclerosis and their metabolism Outline the sequence of events that occur in initiation and progression of an atheromatous plaque Connect the role of chronic inflammation in the progression of an atheromatous plaque. Describe the component of a plaque and its anatomical and histological features in relation to the arterial wall Interpret the possible outcomes of an atheromatous plaque 	1hr 3 hours	SGD SCL time	Pathology

2018-SBM/MED3119/10 Hypertension and its complications	 Describe a stable plaque, vulnerable plaque and fibrocalcific plaque and interpret their clinical significance Explain the changes that occur in the arterial wall due to atheromatous plaque and the complications Relate the underlying pathology with the clinical features of patients presenting with atherosclerosis- related cardiovascular diseases Define the term peripheral vascular disease (PVD) List the most clinically important sites/arteries affected in peripheral vascular disease giving reasons Outline the importance of atherosclerosis as an aetiological factor in peripheral vasculardisease and describe the pathogenesis (Understanding/Analysis) Relate the clinicopathological manifestations in PVD affecting lower limbs and mesenteric arteries outline the aetiology of hypertension Describe the pathophysiology of hypertension. Describe the pathophysiology of hypertension. Outline the end organ effects due to hypertension. Outline the end organ effects due to hypertensive vascular changers e.g., Heart, kidney, brain. Correlate the clinic-pathological effects of hypertension with pathological changes of hypertension in end organs Analyze the clinic-pathological effects of hypertension 	1hr 30min	Lecture SGD and museum class	Pathology
2018-SBM/MED3119/11 Vasculitis, aneurysms and dissection	 1 describe the pathogenesis of non-infectious vasculitis 2 Correlate the pathological changes in vasculitis with clinical outcomes in different Sze blood vessels. 3. Classify types of vasculitis 	1hr	Lecture	Pathology

2018-SBM/MED3119/12 Aneurysms 2018-SBM/MED3119/13	 4. Analyze clinic-pathological effects of vasculitis using clinical scenarios 1 Define the lesion aneurysm 2 Explain the pathogenesis of aneurysms. 3Describe different morphological types of aneurysms. 4 Describe the possible clinical outcomes and complications of aneurysms and correlate with their pathological basis. 5 Describe pathogenesis, morphology, clinical outcome and complications of aortic dissection. 1. Outline the spectrum of clinical manifestations in 	1hr	Lecture	Pathology
Ischaemic Heart Disease	 Outline the spectrum of chinical mannestations in ischaemic heart disease (Blooms 1) outline what is meant by acute coronary syndrome (Blooms 1) name the risk factors for ischaemic heart disease explaining the reasons (Blooms 1 and 2) Summarize the clinical manifestations instable angina, unstable angina and myocardial infarction (Blooms 2) Summarize the changes that occur in coronary circulation to produce myocardial ischaemia/ infarction giving reasons (Blooms 2) Correlate the possible changes in coronary artery in a patient instable angina, unstable angina, acute myocardial infarction, giving reasons (Blooms 3 and 4) name the type of necrosis that occur in a myocardial infarction and discuss the reasons (blooms 3) Name the most common pathogenetic mechanism of an acute myocardial infarction and discuss the reasons (blooms 3) discuss the onset and progression of a myocardial infarction, giving reasons (blooms 2) 	2hrs 30 min	Lecture SGD, Museum classes	Pathology

9. discuss why patients with hypertension are m	ore prone
to develop AMI and other ischaemic manife	estations (
Blooms 3 and 4) SCL (Case scenario)	
10. discuss why patients with diabetes mellitus	are more
prone to develop AMI (Blooms 3 and 4) S	CL (Case
scenario)	
11. name the regions in the myocardium v	where an
infarction could develop depending on the	coronary
artery/branch blocked.(Blooms 1)	
12. Outline the procedure/s used to ident	ify these
blockages in the coronary circulation (Blooms	5 1).
13. Discuss the factors which determine developm	nent of an
infarction, giving reasons (Blooms 2, 3 and 4)	
14. explain how would a person not suffer a m	nyocardial
infarction in spite of complete obstruction of a	a coronary
artery (blooms 3 and 4) SCL	
15. describe the morphological changes in t	the heart
according to a chronological order: (blooms 1	1)
16. Describe the early and late complications	of AMI,
explain the reasons and correlate the	
outcomes (blooms1, 2 and 3)	
17. discuss the mechanisms of death due to an A	AMI giving
reasons (blooms 2 and 3)	
- within two hours of onset of chest pa	in i
- after 4 hours of onset of chest pain	
- after two days of onset of chest pain	
18. Discuss the pathological basis of having	troponin
positive unstable angina (blooms 4). SCL (case	e scenario)
19. Discuss the causes of chronic myocardial	ischaemia
giving reason (blooms 1, 2 and 3)	
	Chairperson

	 20. discuss the morphological changes one would observe in a heart with chronic myocardial ischaemia, giving reasons (blooms 1, 2 and 3). 21. outline the complications of chronic myocardial ischaemia and correlate the pathological changes with clinical outcomes (blooms 1, 2, 3 and 4) 22. Discuss the causes of myocardial fibrosis giving reasons (blooms 1 and 2) 23. Discuss the causes of sudden cardiac death, giving reasons (blooms 1,2 and 3) SCL case scenario. 24. Analyse the clinic-pathologcal outcomes of IHD using clinical scenario (Blooms 4) 			
2018-SBM/MED3119/14 Clinical aspects of IHD	 To Identify the common clinical manifestations in CVS diseases (Blooms level 1) To classify the diseases according to clinical manifestations they produce (Blooms level 2) To correlate pathological changes with the clinical manifestations (Bloom's level 3 and 4). To discuss the basic investigations performed in CVS diseases (Blooms level 1) To correlate the pathological changes responsible for the results expected in these investigations (Blooms level 3 and 4) Analyse the clinic-pathologcal outcomes of IHD using clinical scenario (Blooms 4) 	1 hr 30 min	Lecture SGD, Museum class	Medicine Pathology
2018-SBM/MED3119/15 Rheumatic fever and valvular heart diseases	 Describe the aetiopathogenesis of rheumatic fever and analyze their implications. Describe the morphological changes of acute and chronic rheumatic heart disease correlate with their clinical outcomes and complications. 	1hrs 30 min	Lecture SGD and Museum cass	Pathology

2018-SBM/MED3119/16 Infective endocarditis	 Describe the pathogenesis and macroscopic appearance of other valvular heart diseases e.g., that has calcified (calcific Aortic stenosis) and myxomatous degeneration (MVP) Describe common congenital valvular diseases. Analyze clinical manifestations and complications in all above-mentioned valvular heart diseases. State the risk factors for infective endocarditis and explain the reasons describe the aetiopathogenesis of infective endocarditis correlate the complications and clinical manifestation of infective endocarditis with pathogenesis and pathology of IE Describe the cardiac and systemic complications of infective endocarditis, explaining the reasons. Outline the investigations for infective endocarditis, explaining the reasons and possible results. Outline the non-infective causes of cardiac vegetations Analyze the clinic-pathological features of infective endocarditis and valvular heart diseases using clinical scenarios. 	1 hour 30 min	Lecture SGD and museum class	Pathology
2018-SBM/MED3119/17 Pericardial and Myocardial diseases	 Classify different types of myocardial diseases. Describe the causes, pathogenesis and pathological basis of myocarditis and correlate them with complications, clinical outcomes and investigation results. describe the different types of cardiomyopathies Describe the aetiology and pathological changes in these cardiomyopathies and analyze their clinical significance. Classify different types of pericardial diseases and describe their pathogenesis and correlate with their clinical manifestations. List the common tumours of heart and blood vessels. 	1hr 15 min	lecture Museum class	Pathology
2018-SBM/MED3119/18 Heart failure	 Recall – physiology of pumping action of heart Describe the mechanisms of heart failure 	3 hrs	SCL SGD	Pathology

2018-SBM/MED3119/19 Laboratory diagnosis of cardiac disease	 3. Describe the compensatory mechanisms in heart failure 4. Critically analyze the short term and long term effects of these compensatory mechanisms on function of the heart. 5. Outline the causes of cardiac hypertrophy explaining reasons 6. Critically analyze the short term and long-term effects of cardiac hypertrophy on heart function. 7. Describe the pathogenesis decompensated heart failure. and correlate with clinical manifestations 8. Describe the morphology of heart, lungs and liver in decompensated heart failure, explaining reasons 9. Define cor pulmonale. 7. Outline the causes of corpulmonale, explaiing the reasons and 8. Workout the clinical manifestation of cor pulmonale. 9. Analyse the clinico-pathological features of heart failure using clinical scenarios. 1. Name the investigations performed on a patient suspected to have an AMI and explain the reasons (Blooms 1 and 2) 2. list the cardiac enzymes/proteins currently used for diagnosis of an AMI (Blooms 1) 3. Discuss the basis of assessing serum cardiac enzymes/porteins levels in diagnose an AMI (blooms 2
	3. Discuss the basis of assessing serum cardiac enzymes/proteins levels in diagnose an AMI (blooms 2 and 3)
	4. Evaluate the advantages and disadvantages of cardiac enzymes/proteins mentioned in the diagnose an AMI (blooms 4)
	5. Plan the types of cardiac enzymes/proteins you would request if a patient present, giving reasons: (blooms 5) SCL

	 Outline the serological markers used in diagnosis and management of other cardiac diseases, explaining the reasons (B 1 and 2) Discuss and analyze their advantages, limitations and their role in managing the given disease. (B 2,3, and4). Analyse the applications of above mentioned investigations using clinical ecenarios. 			
Museum class for CVS diseases	 Identify the morphological changes in diseases of the Cardiovascular system using mounted specimens. Correlate these findings with underlying pathological changes responsible and possible clinical and radiological outcomes. 	4hrs 1 hr	Guided SGL Discussion	Pathology
2018-SBM/MED3119/20 Thyroid diseases Neoplastic, none-neoplastic, investigations and clinical aspects of thyroid diseases	 Recall anatomy, histology and hormone production of the thyroid gland Recall the regulation of thyroid hormone production Describe the clinical manifestations of hypothyroidism and hyperthyroidism explaining the resons List the common causes of hypo and hyperthyroidism List the types of goiters and explain the reasons for each type Describe the thyroid manifestations of iodine deficiency and their progression explaining the reasons Describe the aetiopathogenesis, correlating with clinical manifestations, of Graves' disease. List the types of thyroiditis and describe the aetiopathogenesis, correlating withclinical manifestations, of Hashimoto thyroiditis. Classify the common benign and malignant neoplasms of thyroid 	3 hrs 30 minutes	Lectures SGD, Museum class	Pahtology Medicine

	 10. Outline the pathogenesis, morphological changes and biological bahaviour of thyroid neoplasm and correlate these changes with clinical manifestations. 11. List the common investigations performed to assess thyroid gland Explain their patho-physiological basis. 12. Evaluate their advantages and limitations. 13. Analyse the clinico-pathological features and investigations of thyroid diseases using clinical scenarios. 10. Plan a diagnostic algorithm for a patient presenting with a solitary thyroid nodule. SCL 			
2018-SBM/MED3119/21 Diseases of other endocrine glands and investigations	 Recall the functions and homeostasis of hypothalamic pituitary, adrenal gland, gonadal (male/female), parathryroid and Islet of Langhans. Outline the common diseases in the above-mentioned endocrine organs explaining the patholognesis and clinical manifestations. List routine tests that are available to detect endocrine malfunctions in the endocrine glands given above and explain their pathophysiological basis. 	2 hr	Lecture	Pathology
	 Evaluate the advantages and limitations of these routine tests. Analyse the clincio-pathological features and investigations of these diseases using clinical scenarios. 	lhr	SCL	
2018-SBM/MED3119/22 Lymphadenopathy	 Discuss the causes of lymphadenopathy Outline the common types of lymphomas Discuss the diagnostic methods available to detect causes of lymphadenopathy Evaluate the advantages and limitations of these investigations. 	2 hr 30 min	Lecture SGD and museum class	Pathology

	5. Discuss the approach to diagnosing the underlying casues of lymphadenopathy taking clinical scenarios.			
2018-SBM/MED3119/23 Splenomegaly	 To describe the causes, pathology and clinical features of splenomegaly. Analyse the above mentioned using clinical scenarios 	1 hr	Lecture	Pathology
2018-SBM/MED3119/24 Obesity and Metabolic syndrome.	 Understand the diagnostic criteria for obesity and metabolic syndrome List the co-morbidities of obesity Understand the pathophysiology of obesity, insulin resistance and metabolic syndrome Explain the benefits of weight loss Outline the management strategies of obesity and metabolic syndrome 	1 hr	Lecture	Pathology (Physiology)
2018-SBM/MED3119/25 Aetiopathogenesis of Diabetes	 Recall the histology and function of the beta cells and actions of insulin Recall the glucose transportation in different tissues and glucose and fat metabolism. State the definition of diabetes mellitus Classify diabetes melitus Describe the pathogenesis of Type 1 diabetes Describe the pathogenesis of Type 2 diabetes Outline the risk factors for insulin resistance, explaining the reasons Describe the pathogenesis of gestational diabetes List the secondary causes for diabetes mellitus, explaining the reasons 	1 hr	Lecture	Pathology

2018-SBM/MED3119/26 Long term diabetic complication	 Describe the metabolic derangements that lead to chronic diabetic complications. Classify chronic diabetic complications explaining the basis. Discuss the contribution of the mentioned metabolic defragments in diabetes to produce these chronic complications. Discuss the clinical outcomes of chronic diabetic complications correlating with the pathological basis. Analyze clinico-pathological features of chronic diabetic complications using clinical scenarios. 	1 hr 30 min	Lecture SGD and museum classes	Pathology
2018-SBM/MED3119/27 Acute diabetic complications	 Outline the acute complications of diabetes Describe their pathogenesis and correlate clinical manifestations with pathological basis List the investigations performed to diagnose acute diabetic complications, explaining the pathophysiological basis Evaluate their interpretations, advantages and limitations. Analyse clinicio-pathological features of chronic diabetic complications using clinical scenarios. 	1 hr 15 minutes	Lecture SGD and museum classes	Pathology

2018-SBM/MED3119/28 Diagnosis and monitoring of diabetes mellitus	 Describe the relevance of following analysis in measuring of metabolic control of Diabetes a. blood glucose b. glycosylated hemoglobin c. C- peptide Outline the laboratory tests used to diagnose diabetes meilitus, explaining the reasons. Evaluate their applications, advantages and disadvantages Outline the laboratory tests used to monitor diabetic control and complications explaining the reasons. Evaluate their applications, advantages and disadvantages. Analyze the applications of these tests using clinical scenarios. 	1 hr 30 minutes	Lecture Museum class Guided SGL SGD	Pathology
2018-SBM/MED3119/29 Metabolic and remodeling bone disorders	 Recall normal bone metabolism Classify metabolic bone diseases, explaining the reasons Describe aetiopathologenesis of metabolic bone diseases. Correlate clinical manifestations and complications with pathological basis. 	1hr	Lecture	Pathology
2018-SBM/MED3119/30 Infections of bone and joints	 Classify bone infections Describe aetiopathogenesis and pathological changes in acute and chronic osteomyelitis. Correlate the complications and clinical manifestations of acute and chronic osteomyelitis with pathological basis. Outline investigations performed to diagnose osteomyelitis giving reasons. Describe the aetiopathogenesis of skeletal tuberculosis. 	1 hr 30 min	Lecture SGD, Museum class	Pathology

	 6. Correlate the complications and clinical manifestations of skeletal tuberculosis with pathological basis. 4. Plan investigations performed to diagnose skeletal tuberculosis giving reasons. 5. Outline other bone infections 6. Analyse clinic-pathological features of bone infections using clinical scenarios. 			
2018-SBM/MED3119/31 Neoplasms (Bone and soft tissue)	 Recall general pathology of carcinogenesis and spread of tumours Classify skeletal tuours giving reasons Describe the pathological features of bone tumours Correlate the radiological signs of common bone tumours with pathological features Describe the pathological features of metastatic bone tumours Analyze clinico-pathlogical features f bone tumours using clinical scenarios. 	1 hr 15 min	Lecture SGD, Museum class	Pathology Radiology
2018-SBM/MED3119/32 Diseases of the joints	 Classify common bone diseases Describe the actiopathogenesis of common joint diseases Correlate clinical manifestations and complications with pathological changes in the given joint diseases. Outline the investigations performed in diagnosis of joint diseases, giving reasons 	1 hr	Lecture	Pathology Radiology
2018-SBM/MED3119/33 Fracture healing	 Recall general pathology on healing and repair Classify types of fractures Describe process of fracture healing, applying the principles of wound healing to bone and cartilage 	1 hr	Lecture	Pathology

	3. Describe the immediate and late complications of fracture healing, giving reasons.			
2018-SBM/MED3119/34 Congenital bone diseases	Describe the aetiology, pathology and clinical manifestations of congenital bone diseases	1hr	Lecture	Paediatrics
2018-SBM/MED3119/35 Imaging of bone diseases	 Recognize basic radiological signs of bone diseases with a pathological basis (periosteal reaction, bone destruction/ lytic lesions (osteoclastic activity) and sclerosis (osteoblastic activity) Recognize a simple fracture and the types of fractures on plain radiographs in adults & children Differentiate simple from pathological fracture Recognize major manifestations of following conditions Hyperparathyroidism, Rickets, osteomalacia, osteoporosis, Acute and chronic osteomyelitis differentiate benign from malignant bone tumour recognise various manifestations of metastatic bone disease Place of MRI in bone disease understand organ (bone) physiology and its function with regard to radio isotope intake understand when and how to use skeletal scintigraphy 	1 hr	Lecture	Radiology
Museum class on endocrine diseases, lymphadenopathy, splenomegaly and skeletal diseases	 Identify the morphological changes in diseases of the mentioned systems using mounted specimens. Correlate these findings with underlying pathological changes responsible and possible clinical and radiological outcomes. Analyse clincio-pathological features of endocrine diseases using clinical scenarios 	4 hrs 1 hour	Guided SGL Discussion	Pathology