

RESPIRATORY MEDICINE

(CODE: CT)

Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Objectives	Date	Time	Suggested Teaching Learning method	Suggested Assessment method	Number required to certify P	Vertical Integration
Topic: Tuberculosis											
Number of competencies: (19)					Number of procedures that require certification : (01)						
CT1.1	Describe and discuss the epidemiology of tuberculosis and its impact on the work, life and economy of India	K	KH	Y	To Describe the epidemiology of tuberculosis with help of pie chart and visual aids for the third year students	6-4-2022	9.30- 10.30 AM	Lecture, Small group discussion	Written/ Viva voce		Community Medicine
CT1.2	Describe and discuss the microbiology of tubercle bacillus, mode of transmission, pathogenesis, clinical evolution and natural history of pulmonary and extra pulmonary forms (including lymph node, bone and CNS)	K	KH	Y	To recall the microbiology of tubercular bacillus, mode of transmission, pathogenesis, clinical evolution of tuberculosis with help of flowcharts /audio visual aids for second year students	6-4-2022	9.30- 10.30 AM	Lecture, Small group discussion	written		Microbiology
CT1.3	Discuss and describe the impact of co-infection with HIV and other co-morbid conditions. Like diabetes on the natural history of tuberculosis	K	K	Y	To describe the impact of HIV-TB co infection with help of audiovisual for final year students	13-4-2022	9.30- 10.30 AM	Lecture, Small group discussion	written		Microbiology
CT1.4	Describe the epidemiology, the predisposing factors and microbial and therapeutic factors that determine resistance to drugs	K	KH	Y	To discuss the impact of diabetes mellitus on natural history of Tuberculosis for final year students.	20-4-2022	9.30- 10.30 AM	Lecture, Small group discussion	Written/ Viva voce		Community Medicine, Microbiology
CT1.5	Elicit, document and present an appropriate medical history that includes risk factor, contacts, symptoms including cough and fever CNS and other manifestations	S	SH	Y	For second year students to elicit atleast five cardinal symptoms of pulmonary tuberculosis.	15-6-2022	9.30- 10.30 AM	Bed side clinic, DOAP session	Skill assessment		
CT1.6	Demonstrate and perform a systematic examination that establishes the diagnosis based on the clinical presentation that includes a) general examination, b) examination of the chest and lung including loss of volume, mediastinal shift, percussion and auscultation (including DOAP session of lung sounds and added sounds) c) examination of the lymphatic system and d) relevant CNS examination	S	SH	Y	For third year students demonstrate atleast five clinical signs of pulmonary tuberculosis in general and chest examination.	15-6-2022	9.30- 10.30 AM	Bed side clinic, DOAP session	Skill assessment		
CT1.7	Perform and interpret a PPD (mantoux) and describe and discuss the indications and pitfalls of the test	S	P	Y	All interns should learn atleast three indications for mantoux test . Interns should know the dose and site of injections of PPD. All interns should know atleast three drawbacks of mantoux test	22-6-2022	9.30- 10.30 AM	DOAP session	Maintenance of log book		Microbiology

CT1.8	Generate a differential diagnosis based on the clinical history and evolution of the disease that prioritises the most likely diagnosis	K	K	Y	At end of the sessions, all final year students should know atleast five differential diagnosis of pulmonary tuberculosis.	22-6-2022	9.30- 10.30 AM	Bedside clinic, Small group discussion	Bedside clinic/ Viva voce		
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CT1.9	Order and interpret diagnostic tests based on the clinical presentation including: CBC, Chest X ray PA view, Mantoux, sputum culture and sensitivity, pleural fluid examination and culture, HIV testing	K	K	Y	At the end of the clinics, student should be able to investigate and discuss the results and findings based on the clinical presentations of the disease.	22-6-2022	9.30- 10.30 AM	Bedside clinic, DOAP session	Skill assessment	
CT1.10	Perform and interpret an AFB stain	S	P	Y	At the end of DOAP session, the interns should be able demonstrate and discuss the fluorescent staining technique.	22-6-2022	9.30- 10.30 AM	DOAP session	Skill assessment	1
CT1.11	Assist in the performance, outline the correct tests that require to be performed and interpret the results of a pleural fluid aspiration	S	SH	Y	At the end of the clinics, the phase V students be able to list the appropriate tests that should be done and discuss the results of pleural fluid aspiration.	22-6-2022	9.30- 10.30 AM	Skill assessment	Skill assessment	
CT1.12	Enumerate the indications for tests including: serology, special cultures and polymerase chain reaction and sensitivity testing	K	KH	Y	At the end of the lecture, the phase v students should be able to enumerate indications for culture, polymerase chain reactions and sensitivity testing.	27-4-2022	9.30- 10.30 AM	Small group discussion, Lecture	Short note/ Viva voce	
CT1.13	Describe and discuss the origin, indications, technique of administration, efficacy and complications of the BCG vaccine	K	KH	Y	At the end of lecture, the phase V students be able to demonstrate and discuss the indications, administrating route, efficacy and complications of BCG vaccine.	27-4-2022	9.30- 10.30 AM	Lecture, Small group discussion	Short note/ Viva voce	
CT1.14	Describe and discuss the pharmacology of various anti-tuberculous agents, their indications, contraindications, interactions and adverse reactions	K	KH	Y	At the end of the viva voce, phase V students should now the pharmacology of anti-Tubercular drugs and to discuss the indications and adverse reactions of anti- Tubercular drugs.	27-4-2022	9.30- 10.30 AM	Lecture, Small group discussion	Short note/ Viva voce	
CT1.15	Prescribe an appropriate antituberculosis regimen based on the location of disease, smear positivity and negativity and co- morbidities based on current national guidelines including directly observed tuberculosis therapy (DOTS)	K	SH	Y	At the end of the lecture, students should know to treat tuberculosis based on current and recent RNTCP guidelines.	29-6-2022	9.30- 10.30 AM	Bedside clinic, Small group discussion, Lecture	Skill assessment	
CT1.16	Describe the appropriate precautions, screening, testing and indications for chemoprophylaxis for contacts and exposed health care workers	K	KH	Y	the end of clinics to student should know the precautionary measures and indications for Chemoprophylaxis for contacts		9.30- 10.30 AM	Bedside clinic, Small group discussion	Written	

					and exposed health care professionals.					
CT1.17	Define criteria for the cure of Tuberculosis; describe and recognise the features of drug resistant tuberculosis, prevention and therapeutic regimens	S	P	Y	At the end of lecture, the phase V students should be able to define criteria for cure of tuberculosis. 1. To describe and recognize the features of drug resistant tuberculosis 2. To discuss the preventive and therapeutic regimens of tuberculosis.	27-4-2022	9.30- 10.30 AM	Lecture, Small group discussion	Written	
CT1.18	Educate health care workers on National Program of Tuberculosis and administering and monitoring the DOTS program	C	SH	Y	At the end of the session, the interns should educate the health care workers on national program of tuberculosis. 1. To impart the knowledge on administering the ATT drugs through DOTS program 2. To monitor the DOTS Program	17-08-2022	9.30- 10.30 AM	DOAP session	Skill assessment	

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CT1.19	Communicate with patients and family in an empathetic manner about the diagnosis, therapy	S	P	Y	At the end of DOAP session, interns should be able to communicate with patients and family in an empathetic manner about the diagnosis and treatment.	29-6-2022	9.30- 10.30 AM	DOAP session
CT2.1	Define and classify obstructive airway disease	K	KH	Y	At the end of lecture, the phase V students should define and classify obstructive airway disease.	4-05-2022	9.30- 10.30 AM	Lecture, Small group discussion
CT2.2	Describe and discuss the epidemiology, risk factors and evolution of obstructive airway disease	K	KH	Y	At the end of lecture, the phase V students should be able to 1. To describe and discuss the epidemiology of obstructive airway disease.	4-05-2022	9.30- 10.30 AM	Lecture, Small group discussion

					2. To list the risk factors of obstructive airway disease. To describe the evaluations of obstructive airway disease.			
CT2.3	Enumerate and describe the causes of acute episodes in patients with obstructive airway disease	K	KH	Y	At the end of lecture the final year students should be able to discuss the cause of obstructive airway disease.	4-05-2022	9.30- 10.30 AM	Lecture, Small group discussion
CT2.4	Describe and discuss the physiology and pathophysiology of hypoxia and hypercapnea	K	KH	Y	At the end of the lecture, the phase V students should be able to discuss the physiology of hypoxia and hypercapnea.	11-05-2022	9.30- 10.30 AM	Lecture, Small group discussion
CT2.5	Describe and discuss the genetics of alpha 1 antitrypsin deficiency in emphysema	K	KH	N	At the end of lecture, the phase V students should be able to discuss the genetics of alpha1antitrypsin deficiency in emphysema.		9.30- 10.30 AM	Lecture, Small group discussion
CT2.6	Describe the role of the environment in the cause and exacerbation of obstructive airway disease	K	KH	Y	At the end of lecture, the phase V students should able to discuss atleast six environmental risk factor for exacerbation of obstructive airway disease.	4-05-2022	9.30- 10.30 AM	Lecture, Small group discussion
CT2.7	Describe and discuss allergic and non-allergic precipitants of obstructive airway disease	K	KH	Y	At the end of lecture, the phase V students should able to describe atleast three allergic and non- allergic aggravating factors of obstructive airway disease.		9.30- 10.30 AM	Lecture, Small group discussion
CT2.8	Elicit document and present a medical history that will differentiate the aetiologies of obstructive airway disease, severity and precipitants	S	SH	Y	At the end of the clinics, the students should be able to discuss atleast five differential diagnosis of obstructive airway disease based on clinical history.	6-07-2022	9.30- 10.30 AM	Bed side clinic, DOAP session
CT2.9	Perform a systematic examination that establishes the diagnosis and severity that includes measurement of respiratory rate, level of respiratory distress, effort tolerance, breath sounds, added sounds, identification of signs of consolidation pleural effusion and pneumothorax	S	SH	Y	At the end of the clinics, students able to demonstrate atleast five chest examinations findings of pleural effusion, consolidation and pneumothorax.	10-08-2022	9.30- 10.30 AM	Bed side clinic, DOAP session

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CT2.10	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	S	SH	Y	At the end of bedside clinics, final year students should be able to provide three differential diagnosis of the present clinical scenario that suggest specific aetiology.	6-07-2022	9.30- 10.30 AM	Bed side clinic, DOAP session	Skill assessment/ Written	
CT2.11	Describe, discuss and interpret pulmonary function tests	S	SH	Y	At the end of bedside clinics, final year students should be describe and interpret the report of pulmonary function tests.	13-07-2022	9.30- 10.30 AM	Bed side clinic, DOAP session	Skill assessment	
CT2.12	Perform and interpret peak expiratory flow rate	S	P	Y	At the end of clinics, final year students should interpret peak expiratory flow rate.		9.30- 10.30 AM	Bedside clinic, DOAP session	documentation in log book/ Skill assessment	3
CT2.13	Describe the appropriate diagnostic work up based on the presumed aetiology	S	SH	Y	At the end of the clinics, final year students should describe appropriate diagnosis work up based on presumed aetiology.	13-07-2022	9.30- 10.30 AM	Bedside clinic, Small group discussion	Written/ Skill assessment	
CT2.14	Enumerate the indications for and interpret the results of : pulse oximetry, ABG, Chest Radiograph	K	SH	Y	i) At the end of small group discussion students should enumerate atleast five indications for performing chest xray PA view pulse oximetry ABG. ii) At the end of small group discussion, students should interpret the results of pulse oximetry, ABG, chest radiograph.	13-07-2022	9.30- 10.30 AM	Bedside clinics, Small group discussion, DOAP session	Written/ Skill assessment	
CT2.15	Generate a differential diagnosis and prioritise based on clinical features that suggest a specific aetiology	K	SH	Y	At the end of the bedside clinics, third year students should be able to generate a differential diagnosis based on clinical features that suggest specific aetiology.		9.30- 10.30 AM	Bedside clinics, Small group discussion, DOAP session	Written/ Skill assessment	
CT2.16	Discuss and describe therapies for OAD including bronchodilators, leukotriene inhibitors, mast cell stabilisers, theophylline, inhaled and systemic steroids, oxygen and immunotherapy	K	KH	Y	At the end of small group discussion final year students should be able to describe the atleast five therapies for obstructive airway disease.	18-05-2022	9.30- 10.30 AM	Lecture, Small group discussion	Written/ Viva voce	

CT2.17	Describe and discuss the indications for vaccinations in OAD	K	KH	Y	At the end of lecture final year students should be able to describe the indications of vaccinations in obstructive airway disease.	18-05-2022	9.30- 10.30 AM	Lecture, Small group discussion	Written/ Viva voce	
CT2.18	Develop a therapeutic plan including use of bronchodilators and inhaled corticosteroids	K	SH	Y	At the end of the small group discussion students should be able to develop a therapeutic plan for obstructive airway disease.	20-07-2022	9.30- 10.30 AM	Bedside clinics, Small group discussion, DOAP session	Written/ Skill assessment	
Number	COMPETENCY The student should be able to	Domain K/S/A/C	Level K/KH/ SH/P	Core (Y/N)	Objectives	Date	Time	Suggested Teaching Learning method	Sug me	
CT2.19	Develop a management plan for acute exacerbations including bronchodilators, systemic steroids, antimicrobial therapy	K	SH	Y	At the end of the sessions, all final year students should know the various steps in the management of acute exacerbation of OAD		9.30- 10.30 AM	Bedside clinics, Small group discussion, DOAP session	Wri ass	
CT2.20	Describe and discuss the principles and use of oxygen therapy in the hospital and at home	K	KH	Y	At the end of the small group discussion, all interns should know atleast indication of oxygen therapy	25-05-2022	9.30- 10.30 AM	Lecture, Small group discussion	Wri	
CT2.21	Describe discuss and counsel patients appropriately on smoking cessation	K/C	SH	Y	At the end of session all final year students should know the 5A in smoking cessation	27-07-2022	9.30- 10.30 AM	DOAP session	Skil	
CT2.22	Demonstrate and counsel patient on the correct use of inhalers	S/C	SH	Y	At the end of session, all interns should demonstrate the steps involved in use of inhalers to atleast two patients.	3-08-2022	9.30- 10.30 AM	DOAP session	Skil	
CT2.23	Communicate diagnosis treatment plan and subsequent follow up plan to patients	K/C	SH	Y	At end of clinics, all interns should demonstrate to atleast two patients about diagnosis ,treatment plan and subsequent follow up of obstructive airway disease.	20-07-2022	9.30- 10.30 AM	DOAP session	Skil	
CT2.24	Recognise the impact of OAD on patient's quality of life, well being, work and family	A	KH	Y	At the end of small group discussion all interns should assess atleast two obstructive airway disease patients with questionnaire about quality of life and well being.		9.30- 10.30 AM	Small group discussion, Bedside clinics	Obs	
CT2.25	Discuss and describe the impact of OAD on the society and workplace	K	KH	Y	At the end of small group discussion all interns should know the impact of obstructive airway disease in society and work place .		9.30- 10.30 AM	Lecture, Small group discussion	Wri	

CT2.26	Discuss and describe preventive measures to reduce OAD in workplaces	K	KH	Y	At the end of session, all final year students should know various preventive modalities to reduce obstructive airway disease in work place.	1-06-2022	9.30- 10.30 AM	Lecture, Small group discussion	Wri
CT2.27	Demonstrate an understanding of patient's inability to change working, living and environmental factors that influence progression of airway disease	A	KH	Y	At the end of the clinics final year students should demonstrate questionnaire in two obstructive airway disease patients about aggregating factors of obstructive airway disease.		9.30- 10.30 AM	Small group discussion, Bedside clinics	Obs
CT2.28	Demonstrate an understanding for the difficulties faced by patients during smoking cessation	A	KH	Y	At the end of the clinics final year students should demonstrate atleast five withdrawal symptoms of smoking cessation .		9.30- 10.30 AM	Small group discussion, Bedside clinics	Obs

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		Integration								
		Physiology								
PY6.8	Demonstrate the correct technique to perform & interpret Spirometry	S	SH	Y	At the end of session final year students should interpret atleast two spirometry reports.		DOAP sessions	Skill assessment/ Viva voce		Respirat
		Pharmacology								
PH1.32	Describe the mechanism/s of action, types, doses, side effects, indications and contraindications of drugs used in bronchial asthma and COPD	K	KH	Y	At the end of lecture, final year students should list the bronchodilators used in COPD and bronchial asthma.		Lecture, Small group discussion	Written/ Viva voce		Respirat
PH1.33	Describe the mechanism of action, types, doses, side effects, indications and contraindications of the drugs used in cough (antitussives, expectorants/ mucolytics)	K	KH	Y	At the end of lecture, second year students should list the antitussive drugs. At the end of lecture, second year students should list the mucolytic drugs.		Lecture, Small group discussion	Written/ Viva voce		Respirat

PH1.44	Describe the first line antitubercular drugs, their mechanisms of action, side effects and doses.	K	KH	Y	At the end of lecture second year students should explain mechanism of action of antitubercular drugs. At the end of lecture second year students should list atleast five side effects of antitubercular drugs.		Lecture	Written/ Viva voce		Respiratory
PH1.45	Describe the drugs used in MDR and XDR Tuberculosis	K	KH	Y	At the end of lecture, final year students should list atleast five MDR and XDR drugs.		Lecture	Written/ Viva voce		Respiratory
General Medicine										
IM24.10	Describe and discuss the aetiopathogenesis, clinical presentation, identification, functional changes, acute care, stabilization, management and rehabilitation of COPD in the elderly	K	KH	Y	At the end of lecture all final year students should explain aetiopathogenesis and list atleast five clinical features of COPD. At the end of lecture all final year students should explain the treatment of COPD		Lecture, Small group discussion	Written/ Viva voce		
Pediatrics										
PE28.19	Describe the etio-pathogenesis, clinical features, diagnosis, management and prevention of asthma in children	S	SH	Y	At the end of lecture the final year students should be able To list atleast five clinical features of bronchial asthma in children. To explain the diagnosis and management of bronchial asthma in children.		Bedside clinics, Small group discussion, Lecture	Skill Assessment/ Written/ Viva voce		Respiratory

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PE28.20	Counsel the child with asthma on the correct use of inhalers in a simulated environment	S	P	Y	At the end of group discussion, the phase V students should be able to demonstrate the correct use of inhalers with bronchial asthma in a simulated environment.		Bedside clinics, Small group discussion, Lecture	Skills Assessment/ Written/ Viva voce	3	Respirato
PE34.1	Discuss the epidemiology, clinical features, clinical types, complications of Tuberculosis in Children and Adolescents	K	KH	Y	At the end of lecture, the final year students should be able to summarize the epidemiology, complications, aetiopathogenesis of tuberculosis in children and adolescents. At the phase V phase students should be able to list atleast five clinical features of tuberculosis in children and adolescents.		Lecture, Small group discussion	Written/ Viva voce		Microbiol
PE34.2	Discuss the various diagnostic tools for childhood tuberculosis	K	KH	Y	At the end of the lecture the final year students should be able to explain the various diagnostic tools for childhood tuberculosis.		Lecture, Small group discussion	Written/ Viva voce		Microbiol
PE34.3	Discuss the various regimens for management of Tuberculosis as per National Guidelines	K	KH	Y	At the end of small group discussion the phase V students should be able to discuss the various treatment regimens for management of tuberculosis as per the current RNTCP guidelines.		Lecture, Small group discussion	Written/ Viva voce		Microbiol Medicine
PE34.4	Discuss the preventive strategies adopted and the objectives and outcome of the National Tuberculosis Control Program	K	KH	Y	At the end of lecture, the final year students should be able to describe the preventive strategies of tuberculosis according to		Lecture, Small group discussion	Written/ Viva voce		Microbiol Medicine

					recent RNTCP guidelines. At the end of lecture students should be able to illustrate the objectives and outcome of the National Tuberculosis Control Program.					
PE34.5	Able to elicit, document and present history of contact with tuberculosis in every patient encounter	S	SH	Y	At the end of clinics, the phase V students should be able to elicit history of contact with tuberculosis in every patients encounter.		Bedside clinics, Skill lab	Skill Assessment		
PE34.6	Identify a BCG scar	S	P	Y	At the end of clinics, the final year students should be able to examine a BCG scar and to interpret it.		Bed side clinics, Skills lab	Skill Assessment	3	Microbio
PE34.7	Interpret a Mantoux test	S	P	Y	At the end of clinics, the final year students should be able 1. To interpret a mantoux test. 2. To describe the lesion and to discuss		Bed side clinics Skills lab	Skill assessment	3	Microbio
PE34.8	Interpret a Chest Radiograph	S	SH	Y	At the end of clinics, the final year students should be able to interpret a chest radiograph. At the end of clinics, the final year students should be able to differentiate normal and abnormal chest radiograph.	8-06-2022	Bedside clinics Skills lab	Skill assessment		Radiodia
PE34.9	Interpret blood tests in the context of laboratory evidence for tuberculosis	S	SH	N	At the end of group discussion, the phase V students should be able to propose the blood test specific for tuberculosis.		Bed side clinics, Small group discussion	Log book		Microbio
PE34.10	Discuss the various samples for demonstraing the organism eg Gastric Aspirate, Sputum , CSF, FNAC	K	KH	Y	At the end of the group discussion, the final year students should be able to list the various samples for		Bed side clinics, Small group discussion	Written/ Viva voce		Microbio

					demonstrating the organism.					
PE34.11	Perform AFB staining	S	P	Y	<p>At the end of DOAP session, the final year students should be able to demonstrate the AFB by fluorescent staining technique.</p> <p>The final year students should be able to explain the different gradings of sputum in diagnosis of tuberculosis.</p>		DOAP session	Log book/Journal	3	Microbiol
PE34.12	Enumerate the indications and discuss the limitations of methods of culturing M.Tuberculi	K	KH	Y	<p>At the end of small group discussion, the phase V students should be able to list of indications for culturing M.tuberculi.</p> <p>The phase V students should be able to discuss the limitations of culture method of M.tuberculi.</p>		Small group discussion	Written/ Viva voce		Microbiol