SRI BALAJI VIDYAPEETH

(Deemed - to be - University u/s 3 of UGC Act, 1956)

Pillaiyarkuppam, Puducherry – 607 402

Mahatma Gandhi Medical College & Research Institute
Shri Sathya Sai Medical College & Research Institute

COMPETENCY BASED POSTGRADUATE CURRICULUM
M.D. PULMONARY MEDICINE
2021

Preface

The promulgation of the much-awaited Competency Based Medical Education (CBME) for post graduate programs by the National Medical Council is a welcome move. Sri Balaji Vidyapeeth (SBV), Puducherry, deemed to be University, declared u/s 3 of the UGC Act. and accredited by the NAAC with A grade, takes immense privilege in preparing such an unique document in a comprehensive manner and most importantly the onus is on the Indian setting for the first time, with regard to the competency based medical education for post graduate programs that are being offered in the broad specialty departments. SBV is committed to making cardinal contributions that would be realised by exploring newer vistas. Thus, post graduate medical education in the country could be made to scale greater heights and SBV is poised to show the way in this direction.

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Preface

The salient feature of this document is defining the program educational objectives (PEO) for its postgraduate program as a whole, defining program outcomes (PO) based on the competencies to be practiced by the specialist, course outcomes (CO) and program specific sub-competencies and their progression in the form of milestones. The compilation of the milestone description leads to the formation of the required syllabus. This allows the mentors to monitor the progress in sub-competency milestone levels. It also defines milestone in five levels, for each sub-competency. Although NMC has described three domains of competencies, the domain 'Attitude' is elaborated into 4 more competencies for ease of assessment. The six competency model (ACGME) for residency education: Medical Knowledge, Patient Care, Practice Based Learning and Improvement, Systems Based Practice, Professionalism, Inter personal and Communication Skills gives better clarity and in-depth explanation and is used in this document. The sub-competency and their milestone levels are mapped into the entrustable professional activities(EPA) that are specific to the individual postgraduate program. While doing all this, the syllabus prescribed by NMC is fully incorporated into the curriculum. To make the program more relevant, PEO, PO, CO and EPAs are mapped with each other. EPAs which are activity based are used for formative assessment and graded. EPA assessment is based on workplace based assessment (WPBA), multisource feedback (MSF) and eportfolio. A great emphasis is given on monitoring the progress in acquisition of knowledge, skill and attitude through various appraisal forms including e-portfolios during three years of residency period.

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Foreword

It is a matter of great pride to revise the PG curriculum in Pulmonary Medicine for MD program. This document is aligned with the MCI (superseded by the BOG) adoption of Competency Based Medical Education for Postgraduates.

The salient feature of this document is defining the Program Educational Objectives (PEO), Program Outcomes (PO), Course Outcomes (CO) and expected competencies in the form of Entrustable Professional Activities (EPA's) for Pulmonary Medicine. The document also defines the expected milestones / outcomes for each expected competency, which is based on MCI domain of competencies as well as ACGME guidelines.

I thank the expert external members of BOS for their valuable inputs in shaping the document.

The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment. This document has been prepared by the Department of Pulmonary Medicine, MGMCRI, and Puducherry, ratified by the Board of Studies on 09.06.2021 and approved by Academic Council of Sri Balaji Vidyapeeth, a deemed to be university (accredited with 'A' Grade by NAAC.

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The National Medical Council has laid down the PG curricula in their website https://www.nmc.org.in/information-desk/for-colleges/pg-curricula-2 that is listing the syllabus course wise, listing competency to some extent, teaching learning methods and the assessment methods as well. The document describes competencies in three domains (knowledge, skill, and attitude). However, the most significant problem in competency-based training is the development of appropriate assessment tools.

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List of Abbreviations and Acronyms

PEO	Programme Educational Objective
PO	Programme Outcome
CO	Course outcome
EPA	Entrustable Professional Activity
MK	Medical Knowledge
PC	Patient Care
SBP	System Based Practice
PBLI	Practice Based Learning and Improvement
IPCS	Interpersonal Communication Skills
P	Professionalism
TB	Tuberculosis
NTEP	National Tuberculosis Elimination Program
COPD	Chronic Obstructive Pulmonary Disease
DOTS	Directly Observed Treatment Short Course
MDR	Multidrug Resistant
XDR	Extensively Drug Resistant
IRC	Institutional Research Council
IHEC	Institutional Human Ethics Committee

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SRI BALAJI VIDYAPEETH
POST - GRADUATE PROGRAMME
MD PULMONARY MEDICINE

1. Preamble

The competency based curriculum should take into account the needs of the society, both local and global. It needs to outline the demand for the present day as well as future. The curriculum needs to be reviewed at least every five years to address the trending needs, as new knowledge is evolving and communication of the same is seamless. Accordingly the competencies need to meet the societal needs detailing the cognitive, psychomotor and affective domain development for attaining these competencies.

The curriculum indicates to the candidate the knowledge, basic skills and attitudes required to become a competent pulmonologist. It disciplines the thinking habits for problem solving and discovery of new knowledge in the field of Pulmonary Medicine. It defines the Teaching - Learning methods adopted for the resident to achieve the goals of the discipline, and the methods of assessment performed throughout the training period and at the completion of training. The purpose of this document is to provide teachers and learners illustrative guidelines to achieve defined outcomes through learning and assessment.

2. Programme Educational Objective (PEO)

Programme Educational Objectives are broad statements that describe what graduates are expected to attain within few years of completing their programme. These are based on the needs of the society as analysed and outlined by the regulatory body. So as defined by Medical Council of India (MCI), the PEO for MD Pulmonary Medicine are as follows:

PEO1. Specialist who can provide comprehensive care related to Pulmonary Medicine, critical care and pain management.

a. Be a leader and team member who understands health care system and act to provide safe patient care with accountability and responsibility.

PEO2. Communicator possessing adequate communication skill to convey required information in an appropriate manner in various health care setting.

PEO3. Lifelong learner keen on updating oneself regarding the advancement in the health care field and able to perform the role of researcher and teacher.

PEO4. Professional who understands biomedical research and follows the principle of bio - ethics / ethics related to health care system.

3. Programme Outcome (PO)

PO's represent broad statements that incorporate many areas of inter - related knowledge and skills developed over the duration of the programme through a wide range of courses and experiences. They represent the big picture and describe broad aspects of knowledge, skill and attitude development. They encompass multiple learning experiences.

After a period of 3 years, the resident should be able to attain the following PO's:

PO.1. Demonstrate sound knowledge of common respiratory diseases and diagnose pulmonary disorders in community, emergencies and in critical care settings.

PO.2. Perform bedside pulmonary procedures, interventional pulmonary techniques in both emergencies and critical care set up.

PO.3. Identify patient safety and system approach to medical errors.

PO.4. Identify the needs of patients and society and provide cost effective preventive care and advocacy

PO.5. Communicate with stake holders of the health care system

PO.6. Perform SDL and Critical appraisal of medical literature.

PO.7. Demonstrate sound knowledge of Informed consent and shared responsibility.

PO.8. Develop & execute a protocol for a scientific research project, collect and analyze the data and scientifically communicate to the others.

4. Course and Course Outcomes (CO)

CO's describe the learning that will take place across the curriculum through concise statements, made in specific and measurable terms, of what students will know and /or be able to do after successful completion of each course.

There are four courses for MD Pulmonary Medicine:

1. Course 1 (C1): Basic medical sciences as applicable to the Speciality
2. Course 2 (C2): Clinical Pulmonary Medicine including respiratory emergencies
3. Course 3 (C3): Clinical pulmonary medicine including critical care medicine
4. Course 4 (C4): Recent advances in Pulmonary Medicine

4.1 Course 1 (C1) (Basic medical sciences as applicable to the Speciality)

C1.1. Apply knowledge of pre and para clinical science related respiratory system.

C1.2. Basic Course in Biomedical Research, Data collection and analysis, scientific communication

4.2 Course 2 (C2) (Clinical Pulmonary Medicine including respiratory emergencies)

C2.1. Demonstrate sound knowledge of common pulmonary diseases, their clinical manifestations, including emergent situations and of investigative procedures to confirm their diagnosis.

C2.2. Conduct clinical examination, elicit and interpret clinical findings and diagnose common pulmonary disorders and emergencies.

C2.3. Perform simple, routine investigative and office procedures required for making the bedside diagnosis, especially sputum collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and lung function tests.

C2.4. Assist in the performance of common procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary physiotherapy, endotracheal intubation and thoracic drainage / aspiration etc.

C2.5. Manage common pulmonary emergencies and understand the basic of intensive care in patients with pulmonary diseases.

4.3 Course 3 (C3) (Clinical Pulmonary Medicine including critical care medicine)

C3.1. Demonstrate sound knowledge of common emergencies in pulmonary diseases, their clinical manifestations and investigative procedures to confirm their diagnosis.

C3.2. Recognize emergency situations in intensive care, respond to these appropriately and perform basic critical care monitoring and therapeutic procedures.

C3.3. Demonstrate sound knowledge in the principles of critical care, diagnosis and management of complications; severity of illness scoring systems and Ethical and end-of-life issues in critical care

4.4 Course 4 (C4) (Recent advances in Pulmonary Medicine)

C4.1. Recognize the national priorities in pulmonary medicine and play an important role in the implementation of National Health Programmes including tuberculosis.

C4.2. Inculcate good reading habits and develops ability to search medical literature, perform Critical appraisal of medical literature and develop basic concept of medical research.

C4.3. To collect, to compile, analyze, interpret, discuss and present research data

Mapping of PEO, PO and CO

Programme mapping facilitates the alignment of course - level outcomes with programme outcomes. It allows faculty to create a visual map of a programme. It is also used to explore how students are meeting program - level outcomes at the course level. Outcomes mapping focuses on student learning also.

Table1. Mapping of PEO, PO and CO – *To map based on number of PO's*

	PEO1							
			PEO2					
				PEO3				
						PEO4		PEO4
			PE05		PEO5		PEO5	
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8
C1	√			√		√	√	
C2	√	√	√	√	√	√	√	
C3	√	√	√	√	√	√	√	
C4	√	√	√	√	√	√	√	√

All courses run concurrently for 3 years, with a summative assessment at the end.

Competencies, Sub - competencies and milestones

The post graduate programme is competency based, consisting of six domains of competency. Sub - competencies under these domains, specific to the speciality, have been mentioned in general terms. The progression through the curriculum is detailed in sub - competency milestone levels that direct the prescribed syllabus. These sub - competency milestones are mapped to the Entrustable Professional Activities (EPAs), identified as essential for a specialist. Formative assessment includes EPA assessment, and is carried out every quarter using appropriate tools, for identifying eligibility for transfer of trust, to the resident.

Domain of Competencies

1. **Medical Knowledge (MK)**–Acquiring Knowledge of established and evolving biomedical, clinical, epidemiological, and social – behavioural sciences, and the application of this knowledge to patient care.
2. **Patient Care/Procedural Skill (PC/PS)**–Demonstrate ability to provide patient - centred care/demonstrate skills required for teaching and conducting research.
3. **System Based Practise (SBP)** - Demonstrate the ability to follow the standard operating procedures relevant to practices of the organisations for patient care, inculcating quality and economical practices.
4. **Practice Based Learning and improvement (PBLI)** - Demonstrate the commitment to learn by literature search, feedback, practice and improve upon their ability.
5. **Interpersonal Communication skills (IPCS)** - Demonstrate behaviour and skills that result in the effective communication, exchange of information and cooperation with patients, their families, and health professionals
6. **Professionalism (P)** - Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles.

Sub - competencies

Medical Knowledge (MK)

MK1. Knowledge of structure and function of respiratory anatomy , physiology and basic biochemical processes related to respiratory health and disease

MK2. Knowledge of physical signs and symptoms for interpreting abnormalities associated with respiratory anatomy and physiology

MK3. Knowledge of diagnostic and therapeutic approach to patient management in respiratory diseases

MK4. Knowledge of social-behavioural sciences to provide patient care

MK5. Knowledge of epidemiological sciences to identify respiratory health problems, risk factors, disease prevention/health promotion efforts for patients and populations.

Patient Care/ Procedural skill (PC/PS)

PC/PS.1. Gather essential and accurate information about patients and their condition through history-taking, physical examination, and available laboratory data, imaging, and other tests

PC/PS.2. Perform all medical, diagnostic, and surgical procedures considered essential for the area of respiratory practice

PC/PS.3. Interpret laboratory data, imaging studies, and other tests required for the area of respiratory practice

PC/PS.4. Develop and carry out patient management plans rationally

PC/PS.5. Provide health care services aimed at preventing health problems or maintaining health

PC/PS.6. Provide appropriate referral of patients

System Based Practice

SBP1. Work and Coordinate patient care effectively within various health care delivery settings and systems relevant to respiratory medicine; Participate in identifying system errors and implementing potential systems solutions

SBP2. Considers cost and risk-benefit analysis in patient care and Provides appropriate role modelling

Practice based learning and improvement

PBLI.1. Development and execution of lifelong learning through constant self-evaluation, including critical evaluation of research and clinical evidence

PBLI.2. Formal practice-based quality improvement based on established and accepted methodologies

PBLI.3. Teaching &Participation in the education of patients, families, students, trainees, peers, and other health professionals

Interpersonal communication skills

IPCS.1. Communicate effectively with patients, families, and the public, as appropriate

IPCS.2. Communicate effectively with colleagues within specialty, other health professionals, and health-related agencies

IPCS.3. Informed consent and enable shared decision making.

Professionalism

P1. Demonstrate compassion, integrity, and respect for others

P2. Demonstrate Accountability and Responsiveness to the Needs of Patients, Society, and the Profession

Milestone Levels for Sub–competencies

Medical Knowledge

MK1. Knowledge of structure and function of respiratory anatomy, physiology and basic biochemical processes related to respiratory health and disease

Medical Knowledge (MK): Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioural sciences, as well as the application of this knowledge to patient care				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Demonstrates knowledge of normal anatomy, physiology and biochemical processes related to respiratory system	Demonstrates knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems	Correlates the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases	Demonstrates and Shares in depth knowledge of normal and abnormal processes associated with simple and complex respiratory diseases.	**Demonstrates** knowledge of atypical signs and symptoms associated with simple and complex respiratory diseases

MK2. Knowledge of physical signs and symptoms for interpreting abnormalities associated with respiratory anatomy and physiology

Medical Knowledge (MK): Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Recalls and demonstrates basic knowledge of cardinal symptoms and physical signs relevant to respiratory system	Performs basic history taking and Demonstrates skills to elicit signs appropriate to respiratory systems and other relevant systems	Interprets the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases	Demonstrates comprehensive clinical examination skills appropriate to varying patterns of respiratory diseases; Supervises and educates junior level residents	Applies innovative approaches to recognize atypical presentations of respiratory diseases

MK3. Knowledge of diagnostic and therapeutic approach to patient management in respiratory diseases

Medical Knowledge (MK): "Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Demonstrates the ability to correlate the signs and symptoms with abnormal anatomical, physiological and pathological components of respiratory diseases	**Demonstrates** the ability to formulate a differential diagnosis of various respiratory diseases **Demonstrates** an understanding of initial evaluation and management options of Common respiratory diseases.	**Demonstrates** the ability to Interprets laboratory tests various respiratory conditions (Haematology, Biochemical, Microbiology, PFT, Radiology) **Demonstrates** the ability to formulate comprehensive management plans for respiratory patients with co morbidities.	**Educates** junior residents regarding normal and abnormal respiratory conditions. **Demonstrates** ability to share knowledge with other members of the health care.	**Demonstrate**s ability to share knowledge with multidisciplinary team regarding respiratory conditions. **Applies** innovative approaches and implements treatment plans based on emerging evidence for respiratory diseases.

MK4. Knowledge of social-behavioural sciences to provide patient care

Medical Knowledge (MK): "Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to patient care"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Recognise common psychosocial-cultural influences on respiratory health care-seeking, treatment compliance, barriers and attitudes toward care	**Assess** psychosocial-cultural influences on respiratory health care-seeking, treatment compliance, barriers and attitudes toward care	**Analyze** psychosocial-cultural influences on respiratory health care-seeking, treatment compliance, barriers and attitudes toward care **Prepare** a plan to improve the above.	**Educates** residents and other health care members regarding psychosocial-cultural influences on respiratory health care-seeking, treatment compliance, barriers and attitudes toward care	**Leads** a multidisciplinary team in planning for care of patients. **Applies** innovative approaches and implements treatment plans based on emerging evidence

MK5. Knowledge of epidemiological sciences to identify respiratory health problems, risk factors, disease prevention/health promotion efforts for patients and populations.

Medical Knowledge (MK): "Demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioural sciences, as well as the application of this knowledge to patient care"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Recall the principles of epidemiological sciences **Demonstrates** knowledge of the characteristics of a good screening test **Demonstrates** knowledge of indications and limitations of commonly used screening tests	**Apply** principles to the identification of health problems. **Demonstrates** knowledge of evidence-based, age- appropriate guidelines for respiratory health maintenance and disease prevention (e.g., lung cancer screening, smoking cessation)	**Apply** principles to the identification of risk factors **Recommends** age- and risk-appropriate vaccinations	**Suggest** the treatment strategies of health problems	**Plan** disease prevention and health promotion efforts for patient and population in the community.

Patient Care/Procedural Skill – PC/PS

PC/PS.1. Gather essential and accurate information about patients and their condition through history-taking, physical examination, and available laboratory data, imaging, and other tests

Patient Care (PC): "Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of respiratory health problems and the promotion of health"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Able to **recognize** symptoms and signs of respiratory diseases. Demonstrates basic knowledge of approach to common respiratory	**Performs basic history taking and physical examination appropriate to respiratory system**	**Evaluates, orders and interprets laboratory results for respiratory diseases**	**Demonstrates** a comprehensive understanding of the varying patterns of respiratory disorders. Effectively supervises and	**Applies** innovative approaches to recognize atypical presentations of respiratory disorders. **Collaborates and provides** consultation to

diseases			educates lower-level residents.	other members of the health care team

PC/PS.2. Perform all medical, diagnostic, and surgical procedures considered essential for the area of respiratory practice

Patient Care (PC): "Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of respiratory health problems and the promotion of health"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Describes commonly used modes of management including medical and surgical procedures available for treatment of various diseases.	Performs simple, routine investigative and office procedures required for making the bedside diagnosis, especially sputum collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and lung function tests.	Assists in the performance of common procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary physiotherapy, endotracheal intubation and pleural drainage / aspiration Recognizes emergency situations in intensive care, respond to these appropriately and perform basic critical care monitoring and therapeutic procedures. Interprets and manage various blood gases abnormalities in various pulmonary diseases.	**Supervises** and educates medical, diagnostic, and surgical procedures considered essential for the area of respiratory practice to lower level residents. **Collaborates** and provides consultation to other members of the health care team	**Applies** innovative approaches based on emerging evidence in medical, diagnostic and procedural skills. **Performs** complex interventional pulmonary procedures.

PC/PS.3. Interpret laboratory data, imaging studies, and other tests required for the area of respiratory practice

Patient Care (PC): "Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of respiratory health problems and the promotion of health"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Demonstrate knowledge of common respiratory disorders and the relevant investigations performed.	**Interpretation** of commonly performed laboratory data, imaging studies (Chest X-ray); Correlates the laboratory data, imaging studies with underlying pathology	**Interpretation** of specially performed laboratory data, imaging studies (CT scan; PET scan). Correlating specially performed laboratory data, imaging studies with underlying pathology	**Formulates** management plans and initiates treatment for respiratory diseases.	**Applies** innovative approaches to treatment plans based on emerging evidence.

PC/PS.4. Develop and carry out patient management plans rationally

Patient Care (PC): "Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of respiratory health problems and the promotion of health"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Demonstrate knowledge of common respiratory diseases with available management option. **Provides** routine and standard respiratory care. **Demonstrates** a basic understanding of the indications, risks, benefits, complications, and contraindications of	**Performs** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases. **Recognise** complications and formulate immediate management plan.	**Formulates** management plans and initiates treatment for respiratory diseases with co morbidities. **Develops** patient-centred management plans to maintain health and prevent disease.	**Demonstrates** good decision making and abilities to modify management plan. **Recognizes** timely consultation during management.	**Provides** on-going, comprehensive care for respiratory diseases. **Applies** innovative approaches to treatment plans based on emerging evidence.

common respiratory procedures.				

PC/PS.5. Provide health care services aimed at preventing health problems or maintaining health

Patient Care (PC): "Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of respiratory health problems and the promotion of health"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Demonstrates knowledge of the characteristics of a good screening test for respiratory diseases. **Demonstrates** knowledge of indications, benefits and limitations of commonly used screening tests.	**Recognizes** basic risk factors, symptoms, and signs of common respiratory diseases. **Demonstrates** knowledge of evidence-based guidelines for respiratory health maintenance and disease prevention (e.g., Lung cancer screening) **Recommends** age- and risk-appropriate vaccinations.	**Formulates** plans and initiates appropriate screening measures	**Effectively supervises** and educates lower level residents. **Collaborates** and provides consultation to other members of the health care team	**Applies** innovative approaches for preventive and promotive health care.

PC/PS.6. Provide appropriate referral of patients

Patient Care (PC): "Provide patient-centered care that is compassionate, appropriate, and effective for the treatment of respiratory health problems and the promotion of health"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Identifies indications for consultation, referral for patients with cardio-respiratory complications	**Prepares** necessary relevant document for referral transfer of care for patients with cardio-respiratory complications	**Uses** a multi-disciplinary approach and makes appropriate referrals.	**Effectively supervises** and educates lower level residents. **Collaborates** and provides consultation to	**Follow-up** till final outcome after referral

			other members of the health care team	

System Based Practice

SBP1. Work and Coordinate patient care effectively within various health care delivery settings and systems relevant to respiratory medicine; Participate in identifying system errors and implementing potential systems solutions

System Based Practice (SBP):"Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Understands the role of Pulmonologist in advocating for appropriate respiratory care.**Recognizes** limitations and failures of a team approach (e.g., hand-offs, miscommunication) in health care as the leading cause of preventable patient harm	**Demonstrates knowledge** of institutional surveillance systems to monitor for patient safety **Participates** in "time-out" **Utilizes** check lists to promote patient safety (e.g., medication reconciliation) **Demonstrates knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events	**Participates** in patient safety reporting and analyzing systems **Participates** in team drills **Demonstrates** knowledge of national patient safety standards, as well as their use/application in the institution	**Reports** errors and near-misses to the institutional surveillance system and superiors. **Recognizes** when root cause analysis is necessary, and is capable of participating in root cause analysis. **Participates** in quality improvement (QI)/patient safety projects.	**Contributes** to peer-reviewed medical literature.**Organizes** and leads institutional QI/patient safety projects

SBP2. Considers cost and risk-benefit analysis in patient care and Provides appropriate role modeling

System Based Practice (SBP):"Demonstrate an awareness of and responsiveness to the larger context and system of health care, as well as the ability to call effectively on other resources in the system to provide optimal health care"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Understands the importance of providing cost-effective care **Understands** the role of physicians in advocating for respiratory health care	**Aware** of common socioeconomic barriers that impact respiratory care.**Demonstrates** an awareness of the need for coordination of patient care and patient advocacy	**Demonstrates** the incorporation of cost awareness into clinical judgment and decision making **Coordinates and advocates** for needed resources to facilitate patient care (e.g., effective discharge planning)	**Practices** cost-effective care (e.g., formulary drugs, generic drugs, tailoring of diagnostic tests) **Analyzes** patient care options from a quality of life (QOL)/cost-of-care perspective, and includes in patient counselling **Communicates** effectively within his or her own hospital/clinic to advocate for patient needs	**Demonstrates** an understanding of the respiratory health policies locally, regionally, and nationally. **Participates** in advocacy of respiratory health policies locally, regionally, or nationally. **Communicates** within health care systems to advocate for the needs of patients with respiratory ailments.

Practice based learning and improvement

PBLI.1. Considers cost and risk-benefit analysis in patient care and Provides appropriate role modeling

Practice Based Learning and Improvement (PBLI):" Demonstrate the ability to investigate and evaluate the care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Recognizes limits of one's knowledge and skills and seeks supervision Uses feedback from teachers, colleagues, and patients to assess own level of knowledge and expertise Describes and ranks levels of clinical evidence	Regularly seeks and incorporates feedback to improve performance Identifies self- directed learning goals and periodically reviews them with supervisory guidance Formulates a searchable question from a clinical question	Demonstrates a balanced and accurate self- assessment of competence, using clinical outcomes to identify areas for continued improvement Selects an appropriate, evidence-based information tool to meet self-identified learning goals Critically appraises different types of research, including randomized controlled trials (RCTs), systematic reviews, meta- analyses, and practice guidelines	Demonstrates improvement in clinical practice based on continual self-assessment and evidence-based information Identifies and meets self-directed learning goals with little external guidance Demonstrates use of a system or process for keeping up with relevant changes in medicine Independently searches for and discriminates evidence relevant to clinical practice problems	Sustains practice of self-assessment and keeping up with relevant changes in medicine, and makes informed, evidence-based clinical decisions Teaches others techniques to efficiently incorporate evidence gathering into clinical workflow Independently teaches appraisal of clinical evidence

PBLI.2. Formal practice-based quality improvement based on established and accepted methodologies

Practice Based Learning and Improvement (PBLI):" Demonstrate the ability to investigate and evaluate the care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Recognizes potential gaps in quality of care and system-level inefficiencies Discusses with supervisors possible quality gaps and problems with respiratory care delivery	Narrows problems within own clinical service(s) to a specific and achievable aim for a quality improvement (QI) project Outlines factors and causal chains contributing to quality gaps within own institution and practice	Involves appropriate stakeholders in design of a QI project Lists common responses of teams and individuals to changes in clinical operations and describes strategies for managing same	Substantially contributes to a supervised project to address specific quality deficit within own clinical service(s), and measures relevant outcomes Describes basic methods for implementation and evaluation of clinical QI projects	Independently proposes and leads projects to enhance patient care Uses advanced quality measurement and "dashboard" tools Describes core concepts of advanced QI methodologies and business processes

PBLI.3. Teaching &Participation in the education of patients, families, students, trainees, peers, and other health professionals

Practice Based Learning and Improvement (PBLI):" Demonstrate the ability to investigate and evaluate the care of patients, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and lifelong learning"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Recognizes role of physician as teacher	Assumes a role in the clinical teaching of early learners Communicates goals and objectives for instruction of early learners Evaluates and provides feedback to early learners	Participates in activities designed to develop and improve teaching skills Organizes content and methods for individual instruction for early learners	Gives formal didactic presentation to groups (e.g., grand rounds, case conference, journal club) Effectively uses feedback on teaching to improve teaching methods and approaches	Educates broader professional community and/or public (e.g., presents at regional or national meeting) Organizes and develops curriculum materials

Interpersonal communication skills

IPCS.1. Communicate effectively with patients, families, and the public, as appropriate

Interpersonal Communication Skill (ICS):"Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Demonstrates adequate listening skills **Communicates** effectively in routine clinical situations	**Checks for** patient and family understanding of illness and management plan **Allows** for opportunities for patient questions C**ommunicates** with patient and family regarding plan of care	**Communicates** effectively in stressful, emergent, and complex situations **Capable** of delivering bad news to patients and families regarding poor prognoses **Communicates** effectively with patients and families across a broad range of socio-economic and cultural backgrounds	**Delivers** bad news to families about complications or death **Capable** of informing patients and families about a medical error that caused harm **Incorporates** risk management in this process **Role models** effective communication to junior colleagues **Participates** in education of patients and families	**Capable** of effective communication in the most challenging situations, and invites participation from all stakeholders. **Leads** multidisciplinary family/patient/team member conferences. **Role models** for effective communication to junior colleagues

IPCS.2. Communicate effectively with colleagues within specialty, other health professionals, and health-related agencies

Interpersonal Communication Skill (ICS):"Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Understands the importance of relationship	**Demonstrates** an understanding of the roles of health care team members, and	**Works** effectively in interprofessional and interdisciplinary health	**Leads** inter-professional and interdisciplinary health care teams to achieve	**Educates** other health care professionals regarding team building

development, information gathering and sharing, and teamwork	communicates effectively within the team **Demonstrates** an understanding of transitions of care and team debriefing	care teams **Participates** in effective transitions of care and team debriefing **Communicates** effectively with physicians and other health care professionals regarding patient care	optimal outcomes. **Lead** the team in complex situation **Leads** effective transitions of care and team debriefing **Responds** to requests for consultation in a timely manner and communicates recommendations to the requesting team	**Provides** effective consultation in complex and atypical patients **Provide** appropriate role modelling **Applies** innovative approaches for leading the team

IPCS.3. Informed consent and enable shared decision making

Interpersonal Communication Skill (ICS):"Demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients, their families, and health professionals"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Understands the importance of informed consent	**Begins** to engage patients in shared decision making, and obtains informed consent for basic procedures	**Uses** appropriate and easy-to- understand language in all phases of communication, utilizing an interpreter where necessary **Engages** in shared decision making, incorporating patients' and families' cultural frameworks **Obtains** informed consent for complex procedures	**Participates** in multidisciplinary family/patient/team member conferences for informed consent and shared decision making.	**Models** and coaches shared decision making in complex and highly stressful situations **Organizes and Leads** multidisciplinary family/patient/team member conferences for informed consent and shared decision making.

Professionalism

P1. Demonstrate compassion, integrity, and respect for others

Professionalism: "Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Understands the importance of compassion, integrity, and respect for others Demonstrates sensitivity and responsiveness to patients	Consistently shows compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team Consistently demonstrates sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations Accepts constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others	compassion, integrity, and respect for patients who decline medical advice or request un-indicated tests or treatments, for patients who have respiratory co morbidities, and for team members in circumstances of conflict or high stress Modifies one's own behavior based on feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others	Consistently models compassion, integrity, and respect for others Coaches others to improve compassion, integrity, and respect for patients	Assumes long-term or leadership role in community outreach activities to improve the health of vulnerable populations

P2. Demonstrate Accountability and Responsiveness to the Needs of Patients, Society, and the Profession

Professionalism: "Demonstrate a commitment to carrying out professional responsibilities and an adherence to ethical principles"				
Milestone Level 1	**Milestone Level 2**	**Milestone Level 3**	**Milestone Level 4**	**Milestone Level 5**
Understands that physicians are accountable to patients, society, and the	**Consistently punctual** for clinical assignments and responsive to requests for assistance; completes	**Serves** as an example for others in punctuality, responsiveness, and timely completion of duties	**Coaches** others to improve punctuality and responsiveness; offers assistance to ensure	**Participates** in institutional or community peer counselling related to professionalism

profession Acts with honesty and truthfulness	administrative duties (e.g., medical records, reports) on time and without reminders **Understands** the signs and symptoms of fatigue, stress, and substance abuse	**Recognizes** signs and symptoms of fatigue, stress, and substance abuse	patient care duties are completed in a timely fashion **Demonstrates** self-awareness of fatigue and stress, and mitigates the effects	

6. Syllabus

Course 1 (C1) (Basic medical sciences as applicable to Pulmonary Medicine)

Basic Sciences

- **Anatomy and Histology of Respiratory System**

  Development and Anatomy of Respiratory System

  Applied embryology of lungs, mediastinum and diaphragm

  Developmental anomalies

- **Physiology and Biochemistry**

  Assessment of pulmonary functions

  Control of ventilation; pulmonary mechanics

  Ventilation, pulmonary blood flow, gas exchange and transport

  Non-respiratory metabolic functions of lung

  Principles of electrocardiography

  Inhalation kinetics and its implication in aerosol therapy, and sputum induction etc.

  Acid-base and electrolyte balance

  Physiology of sleep and its disorders

  Pulmonary innervation and reflexes

  Pulmonary defence mechanisms

  Principles of exercise physiology and testing

  Physiological changes in pregnancy, high altitude and aging

  Physiological basis of pulmonary symptoms

- **Microbiology**

  Mycobacterium tuberculosis and other Mycobacteria

  Bacteria causing pulmonary diseases

  Atypical organisms and respiratory tract infections

  Anaerobes in pleuropulmonary infections

  Laboratory diagnosis of non-tubercular infections of respiratory tract

  Laboratory diagnosis of TB including staining, culture and drug sensitivity testing

  Virulence and pathogenecity of Mycobacteria

  Respiratory viruses: Viral diseases of the respiratory system and diagnostic methods

Respiratory fungi: (i) Classification of fungal diseases of lung: Candidiasis, Actinomycosis, Nocardiosis, Aspergillosis, Blastomycosis etc. (ii) Laboratory diagnostic procedures in pulmonary mycosis

Opportunistic infections in the immuno-compromised individuals

HIV and AIDS: Virological aspects, immuno-pathogenesis, diagnosis

Parasitic lung diseases

- **Pathology**

  Acute and chronic inflammation: Pathogenetic mechanisms in pulmonary diseases

  Pathology aspects of Tuberculosis

  Pathology aspects of Pneumonias and Bronchopulmonary suppuration

  Chronic bronchitis and emphysema, asthma, other airway diseases

  Occupational lung diseases including Pneumoconiosis

  Interstitial lung diseases including sarcoidosis, connective tissue diseases, pulmonary vasculitis syndromes, pulmonary eosinophilia

  Tumors of the lung, mediastinum and pleura

- **Epidemiology**

  Epidemiological terms and their definitions

  Epidemiological methods

  Epidemiology of tuberculosis, pneumoconiosis, asthma, lung cancer, COPD and other pulmonary diseases

  National Tuberculosis Control Programme and RNTCP;

  Epidemiological aspects of BCG

  Epidemiological aspects of pollution-related pulmonary diseases

  Research methodology, statistics and study designs

- **Allergy and Immunology**

  Various mechanisms of hypersensitivity reactions seen in pulmonary diseases

  Diagnostic tests in allergic diseases of lung - *in vitro* and *in vivo* tests, bronchial provocation test

  Immunology of tuberculosis, Sarcoidosis and other diseases with an immunological basis of pathogenesis

- **Pharmacology**

  Pharmacology of antimicrobial drugs

Pharmacology of antitubercular drugs

Pharmacology of antineoplastic and immunosuppressant drugs

Bronchodilator and anti-inflammatory drugs used in pulmonary diseases

Drugs used in viral, fungal and parasitic infections

Other drugs pharmacokinetics and drugs interaction of commonly used drugs in pulmonary diseases

Pharmacovigilance

- **Basic Course in Biomedical Research, Data collection and analysis, Scientific communication**

Course 2 (C2) (Clinical Pulmonary Medicine including respiratory emergencies)

Course 3 (C3) (Clinical Pulmonary Medicine including Critical Care Medicine)

Course 4 (C4) (Recent advances in Pulmonary Medicine)

Clinical pulmonary medicine covers the entire range of pulmonary diseases. All aspects of pulmonary diseases including epidemiology, etio-pathogenesis, pathology, clinical features, investigations, differential diagnosis and management are to be covered.

A. Infections

1. **Tuberculosis**
    1. Etiopathogenesis
    2. Diagnostic methods
    3. Differential diagnosis
    4. Management of pulmonary tuberculosis; RNTCP, DOTS, and DOTS-Plus; International Standards of TB Care
    5. Complications in tuberculosis
    6. Tuberculosis in children
    7. Geriatric tuberculosis
    8. Pleural and pericardial effusion and empyema
    9. Mycobacteria other than tuberculosis
    10. Extrapulmonary tuberculosis
    11. HIV and TB; interactions of antitubercular drugs with antiretrovirals
    12. Diabetes mellitus and tuberculosis
    13. Management of MDR and XDR tuberculosis
2. **Non-tuberculous infections of the lungs**
    - Approach to a patient with pulmonary infection
    - Community-acquired pneumonia
    - Hospital-associated pneumonia, ventilator-associated pneumonia
    - Unusual and atypical pneumonias including bacterial, viral, fungal and parasitic and Rickettsial, anaerobic

- Bronchiectasis, lung abscess and other pulmonary suppurations
- Acquired immunodeficiency syndrome and opportunistic infections in immuno-compromised host
- Principles governing use of antibiotics in pulmonary infections
- Other pneumonias and parasitic infections, Zoonoses

B. Non-infectious Lung Diseases

3. Immunological disorders

- Immune defense mechanisms of the lung
- Sarcoidosis
- Hypersensitivity Pneumonitis and lung involvement
- Eosinophilic pneumonias and tropicaleosinophilia
- Pulmonary vasculitides
- Connective tissue diseases involving the respiratory system
- Interstitial lung disease of other etiologies
- Reactions of the interstitial space to injury, drugs
- Occupational and environmental pulmonary diseases

4. Other non-infectious disorders of the lungs and airways

- Aspiration and inhalational (non-occupational) diseases of the lung
- Drug induced pulmonary diseases
- Bullous lung disease
- Uncommon pulmonary diseases (metabolic, immunological, unknown etiology), pulmonary hemorrhagic syndromes
- Other pulmonary diseases of unknown etiology including PLCH,LAM, PAP, alveolarmicrolithiasis
- Cystic fibrosis and disorders of ciliary motility
- Obesity-related pulmonary disorders
- Upper airways obstruction syndromes
- Occupational lung diseases and pneumoconiosis
- Air-pollution induced diseases, toxic lung and other inhalational injuries
- Health hazards of smoking
- Drug-induced lung diseases

5. Pulmonary Circulatory disorders

- Pulmonary hypertension and corpulmonale
- Pulmonary edema
- Pulmonary thromboembolic diseases and infarction
- Cardiac problems in a pulmonary patient and pulmonary complications produced by cardiac diseases

6. Obstructive diseases of the lungs

- Asthma including allergic Bronchopulmonary aspergillosis, specific allergen immunotherapy and Immuno modulation
- Chronic obstructive lung disease and diseases of small airways

- Special aspects of management including Long term oxygen therapy, Inhalation therapy and Pulmonary rehabilitation

7. Tumors of the lungs

- Comprehensive knowledge of neoplastic and non-neoplastic diseases of lung including epidemiology, natural history, staging, and principles of treatment (medical, surgical, and radiation)
- Solitary pulmonary nodule

8. Diseases of the mediastinum

- Non-neoplastic disorders
- Benign and malignant (primary and secondary) neoplasms andcysts

9. Disorders of the pleura

- Pleural dynamics and effusions
- Non-neoplastic and neoplastic pleural diseases
- Pneumothorax
- Pyothorax and broncho-pleural fistula
- Fibro thorax

10. Critical Care Pulmonary Medicine

- Management of emergency problems of different pulmonary diseases
- Adult respiratory distress syndrome
- Respiratory failure in the patient with obstructive airway disease
- Respiratory failure in other pulmonary diseases
- Management of sepsis
- Respiratory and hemodynamic monitoring in acute respiratory failure
- Non-invasive and Mechanical ventilation
- Principles of critical care, diagnosis and management of complications; severity of illness scoring systems
- Ethical and end-of-life issues in critical care

11. Extrapulmonary manifestations of pulmonary diseases

12. Sleep-related pulmonary diseases

- Polysomnography
- Sleep apneas
- Other sleep-disordered breathing syndromes

13. Miscellaneous aspects

- Diseases of the diaphragm
- Disorders of chest wall
- Obesity-related pulmonary disorders
- Oxygen therapy
- End-of-life care
- Aerospace Medicine

- Pulmonary problems related to special environments (high altitude, diving, miners)
- Assessment of quality of life using questionnaires
- Health impacts of global warming

14. Preventive Pulmonology

- Principles of smoking cessation and smoking cessation strategies
- Cardiopulmonary rehabilitation
- Preventive aspects of pulmonary diseases
- Vaccination in pulmonary diseases

I. Surgical aspects of Pulmonary Medicine

- Pre- and post-operative evaluation and management of thoracic surgical patients
- Chest trauma/trauma related lungdys function
- Lung transplantation

7. Teaching and Learning Method

The trainee will undergo a graded training over a period of three years.

- Orientation

At the beginning of the course each resident should be given an orientation to the department and subject. The candidate shall be assigned dissertation guides so as to help them prepare protocols

Theory (Knowledge/ Cognitive Domain)

The teaching learning methods does not totally depend on didactic lectures. Only the introductory lectures by faculty are in this format.

Introductory lectures

Acquisition of practical competencies being the keystone of PG medical education, PG training should be skills oriented. Learning in PG program should be essentially self- directed and primarily emanating from clinical and academic work. The formal sessions are merely meant to supplement this core effort.

Teaching programme SBV

This will include theory topics and will ensure participation of the resident in the form of:

1. Seminars, group discussions and symposia. These should be regularly organized in the department.
2. Problem case discussion, before and after the conduct of the case should form part of training.
3. Journal club presentation and discussion
4. Interdepartmental programmes with clinical departments
5. Simulation based training involving - Weekly 2hrs class on simulation:
    a. Learning and practicing basic skills and competencies
    b. Problem solving and decision making skills/ Interpersonal and communications skills or team - based competencies, Deliberate practice with feedback, Exposure to uncommon events and Assessment of learners

Structured Graded Training–Year wise Knowledge / cognitive domain

Formal Teaching methodology:

- This should include regular bedside case presentations and demonstrations, didactic lectures, seminars, symposia, journal clubs***(at least 5-hr of formal teaching per week),*** clinical meetings, morbidity/mortality meetings and Inter- and intra- departmental meetings (Radio-diagnosis, medical oncology, Cardio-thoracic surgery, Pathology). ***Records of these are to be maintained by the department.***
- The post graduate student should be given the responsibility of managing and caring for patients in a gradual manner under supervision.
- Encouraging and allowing the students to attend and actively participate in CMEs, Conferences and presenting papers.
- Maintenance of log book: **E-portfolio:- It is an electronic portfolio to be**

maintained by the resident to record their activities under the section:

- EPA,
- Daily log
- Patient care
- Procedure
- Dissertation
- Academic activities(Seminar, symposium, case presentation, journal club)
- Co-curricular activities (Conference, CME, Workshop),
- Teaching Assignments,
- Awards and achievements
- Outreach activities.

- **E-portfolio** shall be checked and assessed periodically by the faculty members. This will enable to monitor progress of the resident, his level of attainment of milestone and impart the training accordingly.
- Writing thesis following appropriate research methodology, ethical clearance and good clinical practice guidelines.
- The postgraduate students shall be required to participate in the teaching and training programme of undergraduate students and interns.
- A postgraduate student of a postgraduate degree course in broad specialities/super specialities would be required to present one poster presentation, to read one paper at a national/state conference and to present one research paper which should be published/accepted for publication/sent for publication during the period of his postgraduate studies so as to make him eligible to appear at the postgraduate degree examination.
- Attend additional sessions on resuscitation (BLS/ACLS), basic sciences, biostatistics, research methodology, teaching methodology, hospital waste management, health economics, medical ethics and legal issues related to medical practice are suggested.
- Department should encourage e-learning activities.

Practical skills training (psychomotor domain)

Resident Rotations

First Year:

Pulmonary Medicine	10 months
General Medicine	2 weeks
Emergency Medical Services	2 weeks
Radiology	2 weeks
Intermediate Reference Laboratory (IRL) at Government Hospital for Chest Diseases	2 weeks

Second Year:

Pulmonary Medicine	9.5 months
Critical Care Medicine	4weeks
Cardiology	1 week
Cardio-thoracic surgery	1 week
Pediatric Pulmonary Medicine (ICH)	2 weeks
Medical Oncology (Regional Cancer Centre, JIPMER)	2 weeks

Third Year:

Pulmonary Medicine	12months

Structured Graded Training –Year - wise Practical training objectives

Practical and Clinical Training

- Emphasis should be on self-directed learning, group discussions and case presentations.
- Student should be trained about proper History taking, Clinical examination, advising / ordering relevant investigations, their interpretation and instituting medical management by posting students in OPD, specialty clinics and wards. Students should be able to perform and interpret basic and appropriate investigations. The student should attend to the duties (Routine and emergency) and will be attending out patient, Department and special clinics and wards.
- Also will be writing clinical notes regularly and maintains records.

Training Programme:

First 6 months (Orientation Programme)

1. Attending PG orientation programme covering the main teaching methods, issues relating to establishing rapport with the patients. Knowledge of ethical issues involved in rendering patient care services and medico legal practices.
2. Care of indoor patients under guidance of seniors.
3. Taking case-history, working up indoor cases, writing admission and discharge summaries.
4. Performing minor procedures in OPD.
5. Attending emergency and referral calls under the supervision of Senior Resident/Assistant Professor/Associate Professor/Professor.
6. Attending ward rounds and assisting in carrying out the instructions by senior staff.
7. Attending Out Patient Department patients under the supervision of seniors.

8. Keeping records and maintenance of ward, OPD and emergency statistics.
9. Basic knowledge of Computer Application.
10. Training in BLS and ACLS.
11. Training in Basic Research Methodology.

After 6 months to the end of the course:

1. Presenting indoor patients in ward rounds.
2. Attending OPD patients.
3. Doing emergency duties of 24hr duration by rotation among all residents.
4. Presenting seminars, Journal articles & cases on rotation basis.
5. Attending Inter-departmental meetings and planning the management.
6. Ensuring proper management of indoor patients and proper record keeping by juniors.
7. Attending medical care review meetings. Central Academic Programmes and other guest-lectures organized by Institute.
8. Taking clinical classes for undergraduate students posted in PULMONARY MEDICINE.
9. Maintaining a log book / an E-Portfolio under guidance of Mentor.
10. Attending conferences & workshops (at least one national and one regional conference).
11. Properly carrying out dissertation work and submitting in scheduled time.
12. Taking interest in research work, publishing review articles/case reports in journals.
13. Peripheral postings in other disciplines.
14. Training in dissertation and scientific paper writing.

E - portfolio

It is an electronic portfolio to be maintained by the resident to record their day to day academic and patient care activities under the following sections:

- Entrustable Professional Activity assessment
- Daily log
- Patient care
- Procedure
- Dissertation
- Academic activities(Seminar, symposium, case presentation, journal club)
- Co - curricular activities (Conference, CME, Workshop),
- Teaching Assignments,

- Awards and achievements
- Outreach activities.

E – portfolio will be monitored and endorsed periodically by the faculty supervisors. This will enable faculty to monitor residents progress, attainment of milestones and impart the training accordingly.

8. Assessment

Assessment will have 2 components Formative and Summative

Formative Assessment

Cognitive Assessment

- Assessment in Cognitive Domain
- Schedule of theory tests
    - 1st year – 2 papers consisting of syllabus from Course 1
    - 2nd year – 2 papers consisting of syllabus from Course 2 and 3
    - 3rd year – one paper consisting of syllabus from Course 4
    - 3rd year – Mock exams one month prior to University examination, consisting of 4 papers, including syllabus from all the four courses.

EPA Assessment

- Assessment of Entrustable Professional Activities (EPA) done during the OT posting by the consultant in - charge. EPA assessment will be done once by the end of the 1st week of the posting and then again at the end of the posting, for monitoring of resident progress.

List of EPA's

EPA1. History taking with focus on Respiratory System and general & systemic physical examination

EPA2. Formulating a differential diagnosis based on history and examination

EPA3. Ordering and interpretation of common diagnostic tests (like respiratory specimen sampling)

EPA4. Entering and discussing orders and prescriptions and giving the necessary instructions to the patients

EPA5. Document clinical details in the patient record

EPA6. Clinical presentation of a case

EPA7. Using evidence based medicine to improve patient care

EPA8. Give or receive a patient handover to transition care responsibility

EPA9. Participating efficiently as a member of an interprofessional team

EPA10. Diagnosing conditions requiring emergency care and providing primary care

EPA11. Diagnosing conditions requiring emergency care and providing primary care

EPA12. Obtain informed consent for tests and/or procedures

EPA13. Performing complex diagnostic respiratory tests (Spirometry, DLCO, Allergic skin tests, PSG)

EPA14. Performing complex interventional procedures (ICD insertion , pleural biopsy, Bronchoscopy and procedures, thoracoscopy)

EPA15. Patient counselling for diagnostic and therapeutic interventions (HIV testing, initiation of ATT, aerosol therapy, Pulmonary rehabilitation etc.)

EPA Descriptions (Enter all the EPA and their descriptions)

EPA 1: History taking with focus on Respiratory System and general & systemic physical examination	
1. **Description of the activity:**	Postgraduates in Pulmonary Medicine should be able to elicit an accurate and complete history and perform physical examination in a prioritized, organized manner without supervision and with respect for the patient. The history and physical examination should be tailored to the clinical situation and specific patient encounter. This data gathering and patient interaction activity serves as the basis for clinical work and as the building block for patient evaluation and management.
2. **Most relevant domains of competence:**	MK, PC, ICS, P
3. **Competencies within each domain critical to entrustment decisions:**	MK1.3 MK2.3 PC1.3 ICS1.4 P1.3
4. Methods of assessment	1. Periodic clinical exam (Every 6 months) 2. Mini-cex 3. Workplace assessment by Faculty 4. Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	Pre-Entrustable	Entrustable
MK1	**Lack** of knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Lack** of knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Unable** to correlate the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.	**Demonstrates** knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Demonstrates** knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Correlates** the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.
MK2	**Fails** to Recall and demonstrate basic knowledge of cardinal symptoms and physical signs relevant to respiratory system; **Unable** to Perform basic history taking and fails to demonstrate skills to elicit signs appropriate to respiratory systems and other relevant systems; **Unable** to interpret the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases	**Recalls** and **demonstrates** basic knowledge of cardinal symptoms and physical signs relevant to respiratory system; **Performs** basic history taking and **Demonstrates** skills to elicit signs appropriate to respiratory systems and other relevant systems; **Interprets** the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases.
PC1	**Fails** to recognize symptoms and signs of respiratory diseases. **Fails** to demonstrate basic knowledge of approach to common respiratory diseases **Unable** to perform basic history taking and physical examination appropriate to respiratory system. **Unable** to evaluate, order and interpret laboratory results for respiratory diseases	**Able** to recognize symptoms and signs of respiratory diseases. **Demonstrates** basic knowledge of approach to common respiratory diseases **Performs** basic history taking and physical examination appropriate to respiratory system **Evaluates, orders and interprets** laboratory results for respiratory diseases
ICS1	**Does not show** adequate listening skills. **Communicates** ineffectively in routine clinical situations. **Unable to verbalize** basic knowledge about common test/procedure. Fails to understand the importance of informed consent **Enquire for** patient and family understanding of illness but does not allow opportunities for patient questions. **Fails to** communicate with	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Verbalizes** basic knowledge about common respiratory diseases. **Understands** the importance of informed consent. **Enquire** for patient and family understanding of illness and **Allows** opportunities for patient questions. **Maintain** communication with patient and

	patient and family regarding plan of care for hospitalized patient's management plan **Communicates** ineffectively in stressful, emergent, and complex situations. **Incapable** of delivering bad news to patients and families regarding poor prognosis situations. **Unable to communicate** with patients and families across a broad range of socio- economic and cultural backgrounds communication in the most challenging situations, and invite participation from all stakeholders.	family regarding plan of care for hospitalized patients management plan **Communicates** effectively in stressful, emergent, and complex situations. **Capable** of delivering bad news to patients and families regarding poor prognoses situations. **Communicates** with patients and families across a broad range of socio- economic and cultural backgrounds communication in the most challenging situations, and invites participation from all stakeholders.
P1	**Fails to understand** the importance of compassion, integrity, and respect for others. **Fails to** d**emonstrate** sensitivity and responsiveness to patients. **Inconsistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team. **Inconsistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Occasionally Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others	**Consistently shows** compassion, integrity, and respect for patients who decline medical advice or request un-indicated tests or treatments, for patients who have respiratory co morbidities, and for team members in circumstances of conflict or high stress. **Modifies** one's own behavior based on feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others

EPA 2: Formulating a differential diagnosis based on history and examination	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should be able to integrate patient data to formulate an assessment, developing a list of potential diagnoses that can be prioritized and lead to selection of a working diagnosis
2. Most relevant domains of competence:	MK, PC, ICS, PBLI, P
3. Competencies within each domain critical to entrustment decisions:	MK1.2,2.2 PC1.2,4.2 ICS1.2 PBLI1.2 P1.2

4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	Pre-Entrustable	Entrustable
MK 1	**Lack** of knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Lack** of knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Unable** to correlate the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.	**Demonstrates** knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Demonstrates** knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Correlates** the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.
MK 2	**Fails** to Recall and demonstrate basic knowledge of cardinal symptoms and physical signs relevant to respiratory system; **Unable** to Perform basic history taking and fails to demonstrate skills to elicit signs appropriate to respiratory systems and other relevant systems; **Unable** to interpret the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases	Recalls and demonstrates basic knowledge of cardinal symptoms and physical signs relevant to respiratory system Performs basic history taking and Demonstrates skills to elicit signs appropriate to respiratory systems and other relevant systems Interprets the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases
PC 1	**Fails** to recognize symptoms and signs of respiratory diseases. **Fails** to demonstrate basic knowledge of approach to common respiratory diseases **Unable** to perform basic history taking and physical examination appropriate to respiratory system. **Unable** to evaluate, order and interpret laboratory results for respiratory diseases	**Able** to recognize symptoms and signs of respiratory diseases. **Demonstrates** basic knowledge of approach to common respiratory diseases **Performs** basic history taking and physical examination appropriate to respiratory system **Evaluates, orders and interprets** laboratory results for respiratory diseases

PC 4	**Fails to Demonstrate** knowledge of common respiratory diseases with available management option. Does not **Provide** routine and standard respiratory care. **Fails to Perform** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases.	**Demonstrates** knowledge of common respiratory diseases with available management option. **Provides** routine and standard respiratory care. **Performs** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases.
ICS 1	**Lacks** adequate listening skills. **Communicates** in routine clinical situations **ineffectively** **Fails to verbalize** basic knowledge about common respiratory conditions. **Does not** u**nderstand** the importance of informed consent. **Does not enquire** for patient and family understanding of illness and hardly a**llows** opportunities for patient questions , **does not Maintain** communication with patient and family regarding plan of care for hospitalized patients management plan	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Verbalizes** basic knowledge about common respiratory conditions. **Understands** the importance of informed consent **Enquires for** patient and family understanding of illness and **Allows** opportunities for patient questions, **Maintains** communication with patient and family regarding plan of care for hospitalized patients' management plan.
PBLI 1	**Fails to demonstrate** an understanding of critical appraisal of the literature. **Fails to demonstrate** responsiveness to constructive feedback. **Fails to Identify** resources (e.g., texts, search engines) to answer questions while providing patient care **fails to** r**ecognize** limits of knowledge, expertise, and technical skills	**Demonstrates** an understanding of critical appraisal of the literature **Demonstrates** responsiveness to constructive feedback **Identifies** resources (e.g., texts, search engines) to answer questions while providing patient care; **Recognizes** limits of knowledge, expertise, and technical skills.
P 1	**Fail to understand** the importance of compassion, integrity, and respect for others. Unable to d**emonstrate** sensitivity and responsiveness to patients. Fails to **show** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Occasionally demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Occasionally a**ccepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for	**Understands** the importance of compassion, integrity, and respect for others **Demonstrates** sensitivity and responsiveness to patients **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others

	others	

EPA 3: Ordering and interpretation of common diagnostic tests (like respiratory specimen sampling)	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should be able to select and interpret common diagnostic and screening tests using evidence-based and cost-effective principles as they approach a respiratory patient in any setting.
2. Most relevant domains of competence:	MK, PC, ICS, PBLI, P
3. Competencies within each domain critical to entrustment decisions:	MK1.2,MK2.2,MK3.3 PC1.2 PBLI2.2 P1.2
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	**Pre-Entrustable**	**Entrustable**
MK 1	**Lack** of knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Lack** of knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Unable** to correlate the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.	**Demonstrates** knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Demonstrates** knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Correlates** the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.
MK 2	**Fails** to Recall and demonstrate basic knowledge of cardinal symptoms and physical signs relevant to respiratory system; **Unable** to Perform basic history taking and fails to demonstrate skills to elicit signs appropriate to respiratory systems and other relevant systems; **Unable** to interpret the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases	Recalls and demonstrates basic knowledge of cardinal symptoms and physical signs relevant to respiratory system Performs basic history taking and Demonstrates skills to elicit signs appropriate to respiratory systems and other relevant systems Interprets the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases

MK3	**Fails to Demonstrate** the ability to Interprets laboratory tests various respiratory conditions (Haematology, Biochemical, Microbiology, PFT, Radiology)	**Demonstrates** the ability to Interprets laboratory tests various respiratory conditions (Haematology, Biochemical, Microbiology, PFT, Radiology)
PC 1	**Fails** to recognize symptoms and signs of respiratory diseases. **Fails** to demonstrate basic knowledge of approach to common respiratory diseases **Unable** to perform basic history taking and physical examination appropriate to respiratory system. **Unable** to evaluate, order and interpret laboratory results for respiratory diseases	**Able** to recognize symptoms and signs of respiratory diseases. **Demonstrates** basic knowledge of approach to common respiratory diseases **Performs** basic history taking and physical examination appropriate to respiratory system **Evaluates, orders and interprets** laboratory results for respiratory diseases
PBLI 2	**Does not show** commitment to self-evaluation, lifelong learning, and patient safety. **Lacks** understanding of the basic concepts of QI. Does not r**ead appropriate** information, as assigned by the program or related to patient-specific topics. Fails to **Understand** level of evidence for patient care recommendations	**Shows** commitment to self-evaluation, lifelong learning, and patient safety. **Demonstrates** understanding of the basic concepts of QI. **Reads** appropriate information, as assigned by the program or related to patient-specific topics **Understands** level of evidence for patient care recommendations
P 1	**Fails to understand** the importance of compassion, integrity, and respect for others. Unable to d**emonstrate** sensitivity and responsiveness to patients. Inc**onsistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team Inc**onsistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations Doesn't a**ccepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others	**Understands** the importance of compassion, integrity, and respect for others **Demonstrates** sensitivity and responsiveness to patients **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others

EPA 4: Entering and discussing orders and prescriptions and giving the necessary instructions to the patients	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should be able to prescribe therapies or interventions beneficial to patients. Junior Postgraduates will have a comprehensive understanding of some but not necessarily the entire patient's clinical problems for which they must provide orders. They must also recognize their limitations and seek review for any orders and prescriptions they are expected to provide but for which they do not understand the rationale. The expectation is that learners will be able to enter safe orders and prescriptions in a variety of settings (e.g., inpatient, ambulatory, urgent, or emergent care).
2. Most relevant domains of competence:	PC, ICS, SBP, PBL
3. Competencies within each domain critical to entrustment decisions:	PC4.2 ICS1.2 SBP2.2 PBLI2.2 SBV
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	**Pre-Entrustable**	**Entrustable**
PC 4	**Fails to demonstrate** knowledge of common respiratory diseases with available management option. Does not p**rovide** routine and standard respiratory care. **Fails to demonstrate** a basic understanding of the indications, risks, benefits, complications, and contraindications of common respiratory procedures. **Fails to perform** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases. **Fails to recognise** complications and formulate immediate management plan. **Unable to formulate** management plans and initiates treatment for respiratory diseases with co morbidities. Unable to d**evelop** patient-centred management plans to maintain health and prevent disease. **Fails to demonstrate** good	**Demonstrate** knowledge of common respiratory diseases with available management option. **Provides** routine and standard respiratory care. **Demonstrates** a basic understanding of the indications, risks, benefits, complications, and contraindications of common respiratory procedures. **Performs** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases. **Recognise** complications and formulate immediate management plan. **Formulates** management plans and initiates treatment for respiratory diseases with co morbidities. **Develops** patient-centred management plans to maintain health and prevent disease. **Demonstrates** good decision making and abilities to modify management plan.

	decision making and abilities to modify management plan. Does not r**ecognize** timely consultation during management.	**Recognizes** timely consultation during management.
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations **Fails to verbalize** basic knowledge about common respiratory conditions. Unable to u**nderstand** the importance of informed consent. Fails to e**nquire for** patient and family understanding of illness. Occasionally **Allows** opportunities for patient questions , Fails to m**aintain** communication with patient and family regarding plan of care for hospitalized patients management plan SBV	**Demonstrates** adequate listening skills. **Communicates** effectively in common respiratory conditions. **Verbalizes** basic knowledge about common respiratory conditions. **Understands** the importance of informed consent. **Enquires** for patient and family understanding of illness and **Allows** opportunities for patient questions , **Maintains** communication with patient and family regarding plan of care for hospitalized patients management plan
SBP2	**Unable to Understand** the importance of providing cost-effective care. Fails to Understand the role of physicians in advocating for respiratory health care. **Unaware** of common socioeconomic barriers that impact patient care Unable to d**emonstrate** an awareness of the need for coordination of patient care and patient advocacy	**Understands** the importance of providing cost-effective care **Understands** the role of physicians in advocating for respiratory health care. **Aware** of common socioeconomic barriers that impact patient care **Demonstrates** an awareness of the need for coordination of patient care and patient advocacy
PBLI2	**Does not show** commitment to self-evaluation, lifelong learning, and patient safety. **Lacks** understanding of the basic concepts of QI; Does not r**ead** appropriate information, as assigned by the program or related to patient-specific topics Fails to **Understand** level of evidence for patient care recommendations	**Shows** commitment to self-evaluation, lifelong learning, and patient safety; **Demonstrates** understanding of the basic concepts of QI ;**Reads** appropriate information, as assigned by the program or related to patient-specific topics; **Understands** level of evidence for patient care recommendations

EPA 5: Documentation of clinical details in the patient record	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should be able to provide accurate, focused, and context-specific documentation of a clinical encounter in either written or electronic formats. Performance of this EPA is predicated on the ability to obtain information through history, using both primary and secondary sources, and physical exam in a variety of settings.

2. Most relevant domains of competence:	PC, ICS, SBP, P.
3. Competencies within each domain critical to entrustment decisions:	PC4.2 ICS1.2 SBP2.2 P1.2
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	**Pre-Entrustable** SBV	**Entrustable**
PC 4	**Fails to demonstrate** knowledge of common respiratory diseases with available management option. Does not p**rovide** routine and standard respiratory care. **Fails to demonstrate** a basic understanding of the indications, risks, benefits, complications, and contraindications of common respiratory procedures. **Fails to perform** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases. **Fails to recognise** complications and formulate immediate management plan. **Unable to formulate** management plans and initiates treatment for respiratory diseases with co morbidities. Unable to d**evelop** patient-centred management plans to maintain health and prevent disease. **Fails to demonstrate** good decision making and abilities to modify management plan. Does not r**ecognize** timely consultation during management.	**Demonstrate** knowledge of common respiratory diseases with available management option. **Provides** routine and standard respiratory care. **Demonstrates** a basic understanding of the indications, risks, benefits, complications, and contraindications of common respiratory procedures. **Performs** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases. **Recognises** complications and formulate immediate management plan. **Formulates** management plans and initiates treatment for respiratory diseases with co morbidities. **Develops** patient-centred management plans to maintain health and prevent disease. **Demonstrates** good decision making and abilities to modify management plan. **Recognizes** timely consultation during management.
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations **Fails to verbalize** basic knowledge about common respiratory	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Verbalizes** basic knowledge about

	conditions. Unable to u**nderstand** the importance of informed consent. Fails to e**nquire for** patient and family understanding of illness. Occasionally **Allows** opportunities for patient questions, Fails to m**aintain** communication with patient and family regarding plan of care for hospitalized patients management plan	common respiratory conditions. **Understands** the importance of informed consent **Enquires** for patient and family understanding of illness and **Allows** opportunities for patient questions , **Maintains** communication with patient and family regarding plan of care for hospitalized patients management plan
SBP2	**Unable to Understand** the importance of providing cost-effective care. Fails to Understand the role of physicians in advocating for respiratory health care. **Unaware** of common socioeconomic barriers that impact patient care Unable to d**emonstrate** an awareness of the need for coordination of patient care and patient advocacy	**Understands** the importance of providing cost-effective care **Understands** the role of physicians in advocating for respiratory health care. **Aware** of common socioeconomic barriers that impact patient care; **Demonstrates** an awareness of the need for coordination of patient care and patient advocacy
P1	**Unable to understand** the importance of compassion, integrity, and respect for others. Fails to d**emonstrate** sensitivity and responsiveness to patients. Occasionally **shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Fails to demonstrate** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Fails to a**ccept** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.	**Understands** the importance of compassion, integrity, and respect for others. **Demonstrates** sensitivity and responsiveness to patients. **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others

EPA 6: Provides Clinical presentation of a case	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should be able to concisely present a summary of a clinical encounter to one or more members of the health care team (including patients and families) in order to achieve a shared understanding of the patient's current condition. A prerequisite for the ability to provide an oral presentation is synthesis of the information, gathered into an accurate assessment of the patient's current condition.

2. Most relevant domains of competence:	PC,ICS, PBLI, P.
3. Competencies within each domain critical to entrustment decisions:	PC4.2 ICS1.2 PBLI2.2 P1.2
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	Pre-Entrustable	Entrustable
PC 4	**Fails to demonstrate** knowledge of common respiratory diseases with available management option. Does not p**rovide** routine and standard respiratory care. **Fails to demonstrate** a basic understanding of the indications, risks, benefits, complications, and contraindications of common respiratory procedures. **Fails to perform** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases. **Fails to recognise** complications and formulate immediate management plan. **Unable to formulate** management plans and initiates treatment for respiratory diseases with co morbidities. Unable to d**evelop** patient-centred management plans to maintain health and prevent disease. **Fails to demonstrate** good decision making and abilities to modify management plan. Does not r**ecognize** timely consultation during management.	**Demonstrates** knowledge of common respiratory diseases with available management option. **Provides** routine and standard respiratory care. **Demonstrates** a basic understanding of the indications, risks, benefits, complications, and contraindications of common respiratory procedures. **Performs** the initial assessment, formulates a differential diagnosis, and initiates treatment for common respiratory diseases. **Recognises** complications and formulates immediate management plan. **Formulates** management plans and initiates treatment for respiratory diseases with co morbidities. **Develops** patient-centred management plans to maintain health and prevent disease. **Demonstrates** good decision making and abilities to modify management plan. **Recognizes** timely consultation during management.
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations **Fails to verbalize** basic knowledge about common respiratory conditions. Unable to u**nderstand**	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Verbalizes** basic knowledge about common respiratory conditions.

	the importance of informed consent. Fails to e**nquire for** patient and family understanding of illness. Occasionally **Allows** opportunities for patient questions , Fails to m**aintain** communication with patient and family regarding plan of care for hospitalized patients management plan	**Understands** the importance of informed consent **Enquires** for patient and family understanding of illness and **Allows** opportunities for patient questions , **Maintains** communication with patient and family regarding plan of care for hospitalized patients management plan
PBLI2	**Does not show** commitment to self-evaluation, lifelong learning, and patient safety. **Lacks** understanding of the basic concepts of QI; Does not r**ead** appropriate information, as assigned by the program or related to patient-specific topics; Fails to **Understand** level of evidence for patient care recommendations SBV	**Shows** commitment to self-evaluation, lifelong learning, and patient safety **Demonstrates** understanding of the basic concepts of QI; **Reads** appropriate information, as assigned by the program or related to patient-specific topics **Understands** level of evidence for patient care recommendations
P1	**Unable to understand** the importance of compassion, integrity, and respect for others. Fails to d**emonstrate** sensitivity and responsiveness to patients. Occasionally **shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Fails to demonstrate** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Fails to a**ccept** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.	**Understands** the importance of compassion, integrity, and respect for others. **Demonstrates** sensitivity and responsiveness to patients. **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.

EPA 7: Using evidence based medicine to improve patient care	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should be able to identify key clinical questions in caring for patients, identify information resources, and retrieve information and evidence that will be used to address those questions. Postgraduates in Pulmonary Medicine should have basic skill in critiquing the quality of the evidence and assessing applicability to their patients and the clinical context. Underlying the skill set of practicing evidence-based medicine is the foundational knowledge an individual has and the self-awareness to identify gaps and fill them.
2. Most relevant domains of competence:	MK, PBLI.
3. Competencies within each domain critical to entrustment decisions:	MK1.2 MK2.2 PBLI1.2 SBV
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	**Pre-Entrustable**	**Entrustable**
MK 1	**Lack** of knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Lack** of knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Unable** to correlate the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.	**Demonstrates** knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Demonstrates** knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Correlates** the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.
MK 2	**Fails** to Recall and demonstrate basic knowledge of cardinal symptoms and physical signs relevant to respiratory system; **Unable** to Perform basic history taking and fails to demonstrate skills to elicit signs appropriate to respiratory systems and other relevant	**Recalls and demonstrates** basic knowledge of cardinal symptoms and physical signs relevant to respiratory system; **Performs** basic history taking and **Demonstrates** skills to elicit signs appropriate to respiratory systems and other relevant systems; **Interprets** the elicited symptoms and

	systems; **Unable** to interpret the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases	signs appropriately to make a differential diagnosis in respiratory diseases.
PBLI 1	**Lacks** understanding of critical appraisal of the literature. Fails to d**emonstrate** responsiveness to constructive feedback. **Fails to identify** resources (e.g., texts, search engines) to answer questions while providing patient care. Fails to r**ecognize** limits of knowledge, expertise, and technical skills; Unable to d**escribe** commonly used study designs (e.g., randomized controlled trial [RCT], cohort; case-control, cross-sectional)	**Demonstrates** an understanding of critical appraisal of the literature. **Demonstrates** responsiveness to constructive feedback. **Identifies** resources (e.g., texts, search engines) to answer questions while providing patient care. **Recognizes** limits of knowledge, expertise, and technical skills. **Describes** commonly used study designs (e.g., randomized controlled trial [RCT], cohort; case-control, cross-sectional)

EPA 8: Give or receive a patient handover to transition care responsibility	
1. Description of the activity:	Effective and efficient handover communication is critical for patient care. Handover communication ensures that patients continue to receive high-quality and safe care through transitions of responsibility from one health care team or practitioner to another. Handovers are also foundational to the success of many other types of interprofessional communication, including discharge from one provider to another and from one setting to another. Handovers may occur between settings or within settings (e.g., shift changes).
2. Most relevant domains of competence:	PC/ ICS/ PBLI/ P
3. Competencies within each domain critical to entrustment decisions:	PC1.2;PC 4.3; PC 6.3 ICS2.2 PBLI2.2 P1.2
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	Pre-Entrustable	Entrustable
PC 1	**Fails** to recognize symptoms and signs of respiratory diseases. **Fails** to demonstrate basic knowledge of approach to common respiratory diseases **Unable** to perform basic history taking and physical examination appropriate to respiratory system. **Unable** to evaluate, order and interpret laboratory results for respiratory diseases	**Able** to recognize symptoms and signs of respiratory diseases. **Demonstrates** basic knowledge of approach to common respiratory diseases **Performs** basic history taking and physical examination appropriate to respiratory system **Evaluates, orders and interprets** laboratory results for respiratory diseases
PC 4	**Unable to formulate** management plans and initiates treatment for respiratory diseases with co morbidities. Fails to d**evelop** patient-centred management plans to maintain health and prevent disease.	**Formulates** management plans and initiates treatment for respiratory diseases with co morbidities. **Develops** patient-centred management plans to maintain health and prevent disease.
PC 6	**Unable to prepare** necessary relevant document for referral transfer of care for patients with cardio-respiratory complications; **Does not use** a multi-disciplinary approach and makes appropriate referrals	**Prepares** necessary relevant document for referral transfer of care for patients with cardio-respiratory complications; **Uses** a multi-disciplinary approach and makes appropriate referrals.
ICS 2	**Unable to understand** the importance of relationship development, information gathering and sharing, and teamwork. Fails to d**emonstrate** an understanding of the roles of health care team members, and communicate effectively within the team Fails to d**emonstrate** an understanding of transitions of care and team debriefing.	**Understands** the importance of relationship development, information gathering and sharing, and teamwork **Demonstrates** an understanding of the roles of health care team members, and communicates effectively within the team **Demonstrates** an understanding of transitions of care and team debriefing
PBLI 2	**Does not show** commitment to self-evaluation, lifelong learning, and patient safety. **Lacks** understanding of the basic concepts of QI; Does not r**ead** appropriate information, as assigned by the program or related to patient-specific topics Fails to **Understand** level of evidence for patient care recommendations	**Shows** commitment to self-evaluation, lifelong learning, and patient safety **Demonstrates** understanding of the basic concepts of QI. **Reads** appropriate information, as assigned by the program or related to patient-specific topics **Understands** level of evidence for patient care recommendations
P1	**Unable to understand** the importance of compassion, integrity,	**Understands** the importance of compassion, integrity, and respect for

	and respect for others. Fails to d**emonstrate** sensitivity and responsiveness to patients. Occasionally **shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Fails to demonstrate** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Fails to a**ccept** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.	others. **Demonstrates** sensitivity and responsiveness to patients. **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.

EPA 9: Participating efficiently as a member of an interprofessional team	
1. Description of the activity:	Effective teamwork is necessary to achieve the medical competencies for care that is safe, timely, effective, efficient, and equitable. Introduction to the roles, responsibilities, and contributions of individual team members early in professional development is critical to fully embracing the value that teamwork adds to patient care outcomes.
2. Most relevant domains of competence:	ICS, SBP, P.
3. Competencies within each domain critical to entrustment decisions:	ICS2.2 SBP1.2 P2.2
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	**Pre-Entrustable**	**Entrustable**
ICS 2	**Fails to understand** the importance of relationship development, information gathering and sharing, and teamwork. **Lacks** understanding of the roles of health care team members, and communicates effectively within the team. **Lacks** understanding of transitions of	**Understands** the importance of relationship development, information gathering and sharing, and teamwork. **Demonstrates** an understanding of the roles of health care team members, and communicates effectively within the team.

	care and team debriefing.	**Demonstrates** an understanding of transitions of care and team debriefing.
SBP1	**Fails to recognize** limitations and failures of a team approach (e.g., hand-offs, miscommunication) in health care as the leading cause of preventable patient harm. **Lacks knowledge** of institutional surveillance systems to monitor for patient safety Occasionally utilizes check lists to promote patient safety (e.g., medication reconciliation). Lacks **knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events. SBV	**Recognizes** limitations and failures of a team approach (e.g., hand-offs, miscommunication) in health care as the leading cause of preventable patient harm. **Demonstrates knowledge** of institutional surveillance systems to monitor for patient safety (e.g., surgical site infection, medical error reporting) **Participates** in "time-out" **Utilizes** check lists to promote patient safety (e.g., medication reconciliation) **Demonstrates knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events.
P2	**Fails to understand** that physicians are accountable to patients, society, and the profession Acts with honesty and truthfulness.	**Consistently punctual** for clinical assignments and responsive to requests for assistance; completes administrative duties (e.g., medical records, reports) on time and without reminders **Understands** the signs and symptoms of fatigue, stress, and substance abuse

EPA 10: Diagnosing respiratory conditions requiring emergency care and providing primary care	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should be able to promptly recognize a patient who requires urgent or emergent cardio respiratory care, initiate evaluation and management, and seek help if essential. New Postgraduates in Pulmonary Medicine in particular are often among the first responders in an acute care setting, or the first to receive notification of an abnormal lab or deterioration in a patient's status. Early recognition and intervention provides the greatest chance for optimal outcomes in patient care. This EPA often calls for simultaneously recognizing need and initiating a call for assistance.
2. Most relevant domains of competence:	PC, ICS
3. Competencies within each domain critical to entrustment decisions:	PC1.2 PC2.1,2.3 PC3.3 ICS1.2
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty

	• Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	Pre-Entrustable	Entrustable
PC 1	**Fails** to recognize symptoms and signs of respiratory diseases. **Fails** to demonstrate basic knowledge of approach to common respiratory diseases **Unable** to perform basic history taking and physical examination appropriate to respiratory system. **Unable** to evaluate, order and interpret laboratory results for respiratory diseases	**Able** to recognize symptoms and signs of respiratory diseases. **Demonstrates** basic knowledge of approach to common respiratory diseases **Performs** basic history taking and physical examination appropriate to respiratory system **Evaluates, orders and interprets** laboratory results for respiratory diseases
PC 2	**Fails** to describe commonly used modes of management including medical and surgical procedures available for treatment of various diseases. **Fails to recognize** emergency situations in intensive care, responds to these appropriately and perform basic critical care monitoring and therapeutic procedures. **Fails to interpret** and manage various blood gases abnormalities in various pulmonary diseases.	**Describes** commonly used modes of management including medical and surgical procedures available for treatment of various diseases. **Recognizes** emergency situations in intensive care, responds to these appropriately and perform basic critical care monitoring and therapeutic procedures. **Interprets and manage**s various blood gases abnormalities in various pulmonary diseases.
PC 3	Fails to **demonstrate** knowledge of common respiratory disorders and the relevant investigations performed. **Fails to interpret** commonly performed laboratory data, imaging studies (Chest X-ray)and specially performed laboratory data, imaging studies (CT scan; PET scan)and correlate the laboratory data, imaging studies with underlying pathology.	**Demonstrates** knowledge of common respiratory disorders and the relevant investigations performed. **Interpretation** of commonly performed laboratory data, imaging studies (Chest X-ray); **Correlates** the laboratory data, imaging studies with underlying pathology. **Interpretation** of specially performed laboratory data, imaging studies (CT scan; PET scan). Correlating specially performed laboratory data, imaging studies with underlying pathology
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations **Fails to verbalize** basic knowledge	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations

	about common respiratory conditions. Unable to u**nderstand** the importance of informed consent. Fails to e**nquire for** patient and family understanding of illness. Occasionally **Allows** opportunities for patient questions , Fails to m**aintain** communication with patient and family regarding plan of care for hospitalized patients management plan	**Verbalizes** basic knowledge about common respiratory conditions. **Understands** the importance of informed consent. **Enquires** for patient and family understanding of illness and **Allows** opportunities for patient questions , **Maintains** communication with patient and family regarding plan of care for hospitalized patients management plan

EPA 11: Obtain informed consent for tests and/or procedures	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should be able to perform patient care interventions that require informed consent for interventions, tests, or procedures they order or perform (e.g., invasive diagnostic tests, interventional respiratory procedures, central lines, contrast and radiation exposures, blood transfusions) but should not be expected to obtain informed consent for procedures or tests for which they do not know the indications, contraindications, alternatives, risks, and benefits.
2. Most relevant domains of competence:	PC, ICS, SBP, P
3. Competencies within each domain critical to entrustment decisions:	PC1.3 PC2.3 PC4.3 ICS1.2 SBP2.2 P1.2
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	**Pre-Entrustable**	**Entrustable**
PC 1	**Unable** to evaluate, order and interpret laboratory results for respiratory diseases	**Evaluates, orders and interprets** laboratory results for respiratory diseases
PC 2	**Unable to perform** simple, routine investigative and office procedures required for making the bedside diagnosis, especially sputum	**Performs** simple, routine investigative and office procedures required for making the bedside diagnosis, especially sputum

	collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and lung function tests. **Unable to assist** in the performance of common procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary physiotherapy, endotracheal intubation and pleural drainage / aspiration. **Fails** to recognize emergency situations in intensive care, fails to respond to these appropriately and perform basic critical care monitoring and therapeutic procedures.	collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and lung function tests. **Assists** in the performance of common procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary physiotherapy, endotracheal intubation and pleural drainage / aspiration. **Recognizes** emergency situations in intensive care respond to these appropriately and perform basic critical care monitoring and therapeutic procedures.
PC 4	**Fails to develop** patient-centred management plans to maintain health and prevent disease.	**Develops** patient-centred management plans to maintain health and prevent disease.
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations **Fails to verbalize** basic knowledge about common management options. Unable to u**nderstand** the importance of informed consent. Fails to e**nquire for** patient and family understanding of illness. Occasionally **Allows** opportunities for patient questions , Fails to m**aintain** communication with patient and family regarding plan of care for hospitalized patients management plan	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Verbalizes** basic knowledge about common management options **Understands** the importance of informed consent **Enquires** for patient and family understanding of illness and **Allows** opportunities for patient questions , **Maintains** communication with patient and family regarding plan of care for hospitalized patients management plan
PBLI 2	**Does not show** commitment to self-evaluation, lifelong learning, and patient safety. **Lacks** understanding of the basic concepts of QI;Does not r**ead** appropriate information, as assigned by the program or related to patient-specific topics; Fails to **Understand** level of evidence for patient care recommendations	**Shows** commitment to self-evaluation, lifelong learning, and patient safety **Demonstrates** understanding of the basic concepts of QI. **Reads** appropriate information, as assigned by the program or related to patient-specific topics **Understands** level of evidence for patient care recommendations
P1	**Unable to understand** the importance of compassion, integrity, and respect for others. Fails to d**emonstrate** sensitivity and responsiveness to patients.	**Understands** the importance of compassion, integrity, and respect for others. **Demonstrates** sensitivity and responsiveness to patients. **Consistently shows** compassion,

	Occasionally **shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team; **Fails to demonstrate** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Fails to a**ccept** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.	integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.

EPA 12: Performing basic diagnostic respiratory tests (Sputum smear examination for AFB, TST, Pleural aspiration, ABG)	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should have the knowledge of initial evaluation and management options of Common respiratory diseases, ordering and interpretation of basic lab investigations and performing simple, routine investigative and office procedures required for making the respiratory diagnosis within the framework of institutional systems and patient engagement.
2. Most relevant domains of competence:	MK,PC, ICS, SBP, P
3. Competencies within each domain critical to entrustment decisions:	MK 3.2;3.3 PC 1.3;2.2;3.2;4.2 ICS1.2;3.2 SBP 1.3;2.3 P1.3
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	Pre-Entrustable	Entrustable
MK 3	**Fails to demonstrate** the ability to formulate a differential diagnosis of various respiratory diseases **Fails to demonstrate** an understanding of initial evaluation and management options of Common respiratory diseases. **Fails to demonstrate** the ability to Interprets laboratory tests various respiratory conditions (Haematology, Biochemical, Microbiology, PFT, Radiology) **Fails to demonstrate** the ability to formulate comprehensive management plans for respiratory patients with co morbidities.	**Demonstrates** the ability to formulate a differential diagnosis of various respiratory diseases **Demonstrates** an understanding of initial evaluation and management options of Common respiratory diseases. **Demonstrates** the ability to Interprets laboratory tests various respiratory conditions (Haematology, Biochemical, Microbiology, PFT, Radiology) **Demonstrates** the ability to formulate comprehensive management plans for respiratory patients with co morbidities.
PC 1	**Unable** to evaluate, order and interpret laboratory results for respiratory diseases	**Evaluates, orders and interprets** laboratory results for respiratory diseases
PC 2	**Unable to perform** simple, routine investigative and office procedures required for making the bedside diagnosis, especially sputum collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and lung function tests.	**Performs** simple, routine investigative and office procedures required for making the bedside diagnosis, especially sputum collection and examination for etiologic organisms especially Acid Fast Bacilli (AFB), interpretation of the chest x-rays and lung function tests.
PC 3	**Unable to Interpret** of commonly performed laboratory data, imaging studies (Chest X-ray); **Unable to correlate** the laboratory data, imaging studies with underlying pathology	**Interpretation** of commonly performed laboratory data, imaging studies (Chest X-ray); **Correlates** the laboratory data, imaging studies with underlying pathology
PC 4	**Fails to develop** patient-centred management plans to maintain health and prevent disease.	**Develops** patient-centred management plans to maintain health and prevent disease.
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Checks for** patient and family understanding of illness and management plan **Allows** for opportunities for patient questions

		C**ommunicates** with patient and family regarding plan of care
ICS 3	**Does not engage** patients in shared decision making, and obtains informed consent for basic procedures	**Begins to engage** patients in shared decision making, and obtains informed consent for basic procedures
SBP 1	**Fails to demonstrate knowledge** of institutional surveillance systems to monitor for patient safety. Does not u**tilize** check lists to promote patient safety (e.g., medication reconciliation). **Fails to demonstrate knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events. **Does notparticipate** in patient safety reporting and analyzing systems.	**Demonstrates knowledge** of institutional surveillance systems to monitor for patient safety. **Participates** in "time-out" **Utilizes** check lists to promote patient safety (e.g., medication reconciliation) **Demonstrates knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events **Participates** in patient safety reporting and analyzing systems.
SBP 2	**Not aware** of common socioeconomic barriers that impact respiratory care.**Fails to demonstrate** an awareness of the need for coordination of patient care and patient advocacy. **Fails to demonstrate** the incorporation of cost awareness into clinical judgment and decision making	**Aware** of common socioeconomic barriers that impact respiratory care.**Demonstrates** an awareness of the need for coordination of patient care and patient advocacy. **Demonstrates** the incorporation of cost awareness into clinical judgment and decision making
P1	**Unable to understand** the importance of compassion, integrity, and respect for others**. Fails to** d**emonstrate** sensitivity and responsiveness to patients. Occasionally **shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Fails to demonstrate** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Fails to a**ccept** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.	**Understands** the importance of compassion, integrity, and respect for others. **Demonstrates** sensitivity and responsiveness to patients. **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.

EPA 13: Performing complex diagnostic respiratory tests (Spirometry, DLCO, Allergic skin tests, PSG)	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should have the knowledge of advanced evaluation and management options of Common respiratory diseases, ordering and interpretation of special lab investigations and performing complex investigative and office procedures required for confirming the respiratory diagnosis within the framework of institutional systems and patient engagement.
2. Most relevant domains of competence:	MK,PC, ICS, SBP, P
3. Competencies within each domain critical to entrustment decisions:	MK 3.2;3.3 PC 2.3;3.3;4.3 ICS1.2;3.3 SBP 1.3;2.3 P1.3 SBV
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	**Pre-Entrustable**	**Entrustable**
MK 3	**Fails to demonstrate** the ability to formulate a differential diagnosis of various respiratory diseases **Fails to demonstrate** an understanding of initial evaluation and management options of Common respiratory diseases. **Fails to demonstrate** the ability to Interprets laboratory tests various respiratory conditions (Haematology, Biochemical, Microbiology, PFT, Radiology) **Fails to demonstrate** the ability to formulate comprehensive management plans for respiratory patients with co morbidities.	**Demonstrates** the ability to formulate a differential diagnosis of various respiratory diseases **Demonstrates** an understanding of initial evaluation and management options of Common respiratory diseases. **Demonstrates** the ability to Interprets laboratory tests various respiratory conditions (Haematology, Biochemical, Microbiology, PFT, Radiology) **Demonstrates** the ability to formulate comprehensive management plans for respiratory patients with co morbidities.
PC 2	**Unable to assist** in the performance of procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary physiotherapy,	**Assists** in the performance of common procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary

	endotracheal intubation and pleural drainage / aspiration **Unable to recognize** emergency situations in intensive care, respond to these appropriately and perform basic critical care monitoring and therapeutic procedures.	physiotherapy, endotracheal intubation and pleural drainage / aspiration; **Recognizes** emergency situations in intensive care, respond to these appropriately and perform basic critical care monitoring and therapeutic procedures.
PC 3	**Unable to Interpret** specially performed laboratory data, imaging studies (CT scan; PET scan). **Unable to correlate** specially performed laboratory data, imaging studies with underlying pathology	**Interpretation** of specially performed laboratory data, imaging studies (CT scan; PET scan). **Correlating** specially performed laboratory data, imaging studies with underlying pathology
PC 4	**Fails to develop** patient-centred management plans to maintain health and prevent disease. SBV	**Formulates** management plans and initiates treatment for respiratory diseases with co morbidities. **Develops** patient-centred management plans to maintain health and prevent disease.
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Checks for** patient and family understanding of illness and management plan **Allows** for opportunities for patient questions C**ommunicates** with patient and family regarding plan of care
ICS 3	**Does not** engage patients in shared decision making and obtain informed consent for basic procedures	**Uses** appropriate and easy-to-understand language in all phases of communication, utilizing an interpreter where necessary; **Engages** in shared decision making, incorporating patients' and families' cultural frameworks **Obtains** informed consent for complex procedures
SBP 1	**Fails to demonstrate knowledge** of institutional surveillance systems to monitor for patient safety. Does not u**tilize** check lists to promote patient safety (e.g., medication reconciliation). **Fails to demonstrate knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events. **Does notparticipate** in patient safety	**Demonstrates knowledge** of institutional surveillance systems to monitor for patient safety. **Participates** in "time-out" **Utilizes** check lists to promote patient safety (e.g., medication reconciliation) **Demonstrates knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events

	reporting and analyzing systems.	**Participates** in patient safety reporting and analyzing systems.
SBP 2	**Not aware** of common socioeconomic barriers that impact respiratory care.**Fails to demonstrate** an awareness of the need for coordination of patient care and patient advocacy. **Fails to demonstrate** the incorporation of cost awareness into clinical judgment and decision making	**Aware** of common socioeconomic barriers that impact respiratory care.**Demonstrates** an awareness of the need for coordination of patient care and patient advocacy. **Demonstrates** the incorporation of cost awareness into clinical judgment and decision making
P1	**Unable to understand** the importance of compassion, integrity, and respect for others. Fails to d**emonstrate** sensitivity and responsiveness to patients. Occasionally **shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Fails to demonstrate** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Fails to a**ccept** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.	**Understands** the importance of compassion, integrity, and respect for others. **Demonstrates** sensitivity and responsiveness to patients. **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.

EPA 14: Performing complex interventional procedures (ICD insertion, pleural biopsy, Bronchoscopy and procedures, thoracoscopy etc.)	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should have the knowledge of complex interventional pulmonary procedures and should be able to assist the consultant effectively during performance of such procedures.
2. Most relevant domains of competence:	MK PC ICS SBP PBLI P

3. Competencies within each domain critical to entrustment decisions:	MK 3.3 PC2.3; 3.3; 4.3;6.1 ICS1.3 ICS3.3 SBP1.3 SBP2.3 PBLI2.3 P1.3
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers d. Peers

Competency	**Pre-Entrustable** SBV	**Entrustable**
MK 3	**Fails to demonstrate** the ability to formulate a differential diagnosis of various respiratory diseases **Fails to demonstrate** the ability to formulate comprehensive management plans for respiratory patients with co morbidities.	**Demonstrates** the ability to formulate a differential diagnosis of various respiratory diseases. **Demonstrates** the ability to formulate comprehensive management plans for respiratory patients with co morbidities.
PC 2	**Unable to assist** in the performance of procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary physiotherapy, endotracheal intubation and pleural drainage / aspiration **Unable to recognize** emergency situations in intensive care, respond to these appropriately and perform basic critical care monitoring and therapeutic procedures.	**Assists** in the performance of common procedures, like bronchoscopic examination, pleural aspiration and biopsy, pulmonary physiotherapy, endotracheal intubation and pleural drainage / aspiration; **Recognizes** emergency situations in intensive care, respond to these appropriately and perform basic critical care monitoring and therapeutic procedures.
PC 3	**Unable to Interpret** specially performed laboratory data, imaging studies (CT scan; PET scan). Unable to correlate specially performed laboratory data, imaging studies with underlying pathology	**Interpretation** of specially performed laboratory data, imaging studies (CT scan; PET scan). Correlating specially performed laboratory data, imaging studies with underlying pathology

PC 4	**Fails to develop** patient-centred management plans to maintain health and prevent disease.	**Formulates** management plans and initiates treatment for respiratory diseases with co morbidities. **Develops** patient-centred management plans to maintain health and prevent disease.
PC 6	**Fails to identify** indications for consultation, referral for patients with cardio-respiratory complications	**Identifies** indications for consultation, referral for patients with cardio-respiratory complications
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations SBV	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Checks for** patient and family understanding of illness and management plan **Allows** for opportunities for patient questions C**ommunicates** with patient and family regarding plan of care
ICS 3	**Does not** engage patients in shared decision making and obtain informed consent for basic procedures	**Uses** appropriate and easy-to- understand language in all phases of communication, utilizing an interpreter where necessary; **Engages** in shared decision making, incorporating patients' and families' cultural frameworks **Obtains** informed consent for complex procedures
SBP 1	**Fails to demonstrate knowledge** of institutional surveillance systems to monitor for patient safety. Does not u**tilize** check lists to promote patient safety (e.g., medication reconciliation). **Fails to demonstrate knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events. Does not **participate** in patient safety reporting and analyzing systems.	**Demonstrates knowledge** of institutional surveillance systems to monitor for patient safety. **Participates** in "time-out" **Utilizes** check lists to promote patient safety (e.g., medication reconciliation) **Demonstrates knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events **Participates** in patient safety reporting and analyzing systems.
SBP 2	**Not aware** of common socioeconomic barriers that impact respiratory care.**Fails to demonstrate** an awareness of the need for coordination of patient care and patient advocacy.	**Aware** of common socioeconomic barriers that impact respiratory care.**Demonstrates** an awareness of the need for coordination of patient care and patient advocacy. **Demonstrates** the incorporation of cost awareness into clinical judgment and

	Fails to demonstrate the incorporation of cost awareness into clinical judgment and decision making	decision making
P1	**Unable to understand** the importance of compassion, integrity, and respect for others. Fails to d**emonstrate** sensitivity and responsiveness to patients. Occasionally **shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Fails to demonstrate** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Fails to a**ccept** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others. SBV	**Understands** the importance of compassion, integrity, and respect for others. **Demonstrates** sensitivity and responsiveness to patients. **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.

EPA 15: Patient counselling for diagnostic and therapeutic interventions (HIV testing, initiation of ATT, aerosol therapy, Pulmonary rehabilitation etc.)	
1. Description of the activity:	Postgraduates in Pulmonary Medicine should
2. Most relevant domains of competence:	MK PC ICS SBP PBLI P
3. Competencies within each domain critical to entrustment decisions:	MK 1.3;2.3;4.3;5.3 PC 4.3;5.3;6.3 ICS 1.3;2.3;3.3 SBP1.3; 2.3 PBLI 1.3; 2.3 P1.3;2.3
4.Methods of assessment	• Periodic clinical exam (Every 6 months) • Workplace assessment by Faculty • Multisource feedback a. Patient b. Nurses c. Health care workers

	d. Peers

Competency	Pre-Entrustable	Entrustable
MK 1	**Lack** of knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Lack** of knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Unable** to correlate the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.	**Demonstrates** knowledge of normal anatomy, physiology and biochemical processes related to respiratory system; **Demonstrates** knowledge of aberrant anatomy, physiology and biochemical processes associated with respiratory systems; **Correlates** the abnormal anatomical, physiological and biochemical processes to relevant pathophysiology associated with respiratory diseases.
MK 2	**Fails** to Recall and demonstrate basic knowledge of cardinal symptoms and physical signs relevant to respiratory system; **Unable** to Performs basic history taking and fails to demonstrate skills to elicit signs appropriate to respiratory systems and other relevant systems; **Unable** to interpret the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases	Recalls and demonstrates basic knowledge of cardinal symptoms and physical signs relevant to respiratory system Performs basic history taking and Demonstrates skills to elicit signs appropriate to respiratory systems and other relevant systems Interprets the elicited symptoms and signs appropriately to make a differential diagnosis in respiratory diseases
MK 4	**Fails to analyze** psychosocial-cultural influences on respiratory health care-seeking, treatment compliance, barriers and attitudes toward care. **Unable to prepare** a plan to improve the above.	**Analyze** psychosocial-cultural influences on respiratory health care-seeking, treatment compliance, barriers and attitudes toward care. **Prepare** a plan to improve the above.
MK 5	**Does not apply** principles to the identification of risk factors Unable to re**commend** age- and risk- appropriate vaccinations.	**Apply** principles to the identification of risk factors **Recommends** age- and risk-appropriate vaccinations.

PC 4	**Fails to develop** patient-centred management plans to maintain health and prevent disease.	**Formulates** management plans and initiates treatment for respiratory diseases with co morbidities. **Develops** patient-centred management plans to maintain health and prevent disease.
PC 5	**Unable to formulate** plans and initiate appropriate screening measures.	**Formulates** plans and initiates appropriate screening measures.
PC 6	**Does not use** a multi-disciplinary approach and makes appropriate referrals.	**Uses** a multi-disciplinary approach and makes appropriate referrals.
ICS 1	**Lacks** adequate listening skills. **Communicates** ineffectively in routine clinical situations SBV	**Demonstrates** adequate listening skills. **Communicates** effectively in routine clinical situations **Checks for** patient and family understanding of illness and management plan **Allows** for opportunities for patient questions C**ommunicates** with patient and family regarding plan of care
ICS 2	**Works** ineffectively in interprofessional and interdisciplinary health care teams **Does not participate** in effective transitions of care and team debriefing **Communicates** ineffectively with physicians and other health care professionals regarding patient care.	**Works** effectively in interprofessional and interdisciplinary health care teams **Participates** in effective transitions of care and team debriefing **Communicates** effectively with physicians and other health care professionals regarding patient care.
ICS 3	**Does not** engage patients in shared decision making and obtain informed consent for basic procedures	**Uses** appropriate and easy-to- understand language in all phases of communication, utilizing an interpreter where necessary; **Engages** in shared decision making, incorporating patients' and families' cultural frameworks **Obtains** informed consent for complex procedures
SBP 1	**Fails to demonstrate knowledge** of institutional surveillance systems to monitor for patient safety. Does not u**tilize** check lists to promote patient safety (e.g., medication reconciliation). **Fails to demonstrate knowledge** of the epidemiology of medical errors and the differences between	**Demonstrates knowledge** of institutional surveillance systems to monitor for patient safety. **Participates** in "time-out" **Utilizes** check lists to promote patient safety (e.g., medication reconciliation) **Demonstrates knowledge** of the epidemiology of medical errors and the differences between near misses, medical errors, and sentinel events **Participates** in patient safety reporting

	near misses, medical errors, and sentinel events. Does not **participate** in patient safety reporting and analyzing systems.	and analyzing systems.
SBP 2	**Not aware** of common socioeconomic barriers that impact respiratory care.**Fails to demonstrate** an awareness of the need for coordination of patient care and patient advocacy. **Fails to demonstrate** the incorporation of cost awareness into clinical judgment and decision making	**Aware** of common socioeconomic barriers that impact respiratory care.**Demonstrates** an awareness of the need for coordination of patient care and patient advocacy. **Demonstrates** the incorporation of cost awareness into clinical judgment and decision making
PBLI 1	**Lacks** understanding of critical appraisal of the literature. Fails to d**emonstrate** responsiveness to constructive feedback. **Fails to identify** resources (e.g., texts, search engines) to answer questions while providing patient care. Fails to r**ecognize** limits of knowledge, expertise, and technical skills Unable to d**escribes** commonly used study designs (e.g., randomized controlled trial [RCT], cohort; case-control, cross-sectional)	**Demonstrates** an understanding of critical appraisal of the literature. **Demonstrates** responsiveness to constructive feedback. **Identifies** resources (e.g., texts, search engines) to answer questions while providing patient care. **Recognizes** limits of knowledge, expertise, and technical skills. **Describes** commonly used study designs (e.g., randomized controlled trial [RCT], cohort; case-control, cross-sectional)
PBLI 2	**Does not show** commitment to self- evaluation, lifelong learning, and patient safety. **Lacks** understanding of the basic concepts of QI; Does not r**ead** appropriate information, as assigned by the program or related to patient-specific topics ; Fails to **Understand** level of evidence for patient care recommendations	**Shows** commitment to self- evaluation, lifelong learning, and patient safety **Demonstrates** understanding of the basic concepts of QI. **Reads** appropriate information, as assigned by the program or related to patient-specific topics **Understands** level of evidence for patient care recommendations
P1	**Unable to understand** the importance of compassion, integrity, and respect for others. Fails to d**emonstrate** sensitivity and responsiveness to patients. Occasionally **shows** compassion, integrity, and respect in typical situations with	**Understands** the importance of compassion, integrity, and respect for others. **Demonstrates** sensitivity and responsiveness to patients. **Consistently shows** compassion, integrity, and respect in typical situations with patients, peers, and members of the health care team **Consistently demonstrates** sensitivity

	patients, peers, and members of the health care team **Fails to demonstrate** sensitivity and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. Fails to a**ccept** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.	and responsiveness to diversity of patients' ages, cultures, races, religions, abilities, or sexual orientations. **Accepts** constructive feedback to improve his or her ability to demonstrate compassion, integrity, and respect for others.
P2	**Does not serve** as an example for others in punctuality, responsiveness, and timely completion of duties;Fails to r**ecognize** signs and symptoms of fatigue, stress, and substance abuse SBV	**Serves** as an example for others in punctuality, responsiveness, and timely completion of duties .**Recognizes** signs and symptoms of fatigue, stress, and substance abuse

Mapping of EPA to Programme Outcomes (PO)

Table 4 showing mapping of the EPA's to the Programme outcomes

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8
EPA1.	✓	✓	✓	✓	✓		✓	
EPA2.	✓	✓	✓					
EPA3.	✓	✓	✓	✓	✓		✓	
EPA4.	✓	✓	✓	✓	✓		✓	
EPA5.	✓	✓	✓	✓			✓	
EPA6.	✓	✓	✓	✓	✓	✓	✓	
EPA7.						✓		✓
EPA8.			✓		✓		✓	
EPA9.			✓		✓		✓	
EPA10.			✓		✓		✓	
EPA11.					✓		✓	
EPA12.	✓	✓	✓	✓	✓		✓	
EPA13.	✓	✓	✓	✓	✓		✓	
EPA14.	✓	✓	✓	✓	✓	✓	✓	
EPA15.	✓		✓	✓	✓		✓	

Summative Assessment

Dissertation

Objectives

1. The student should be able to demonstrate capability in research by planning and conducting systematic scientific inquiry & data analysis and deriving conclusion.
2. Communicate scientific information for health planning.

Guide for dissertation

1. Chief guide will be allocated from the Department of Pulmonary Medicine.
2. Co - guides can be selected from within the department or from other disciplines related to the dissertation topic.

Submission of dissertation protocol

It should be submitted at the end of six months after admission in the course, in the format prescribed by the institute:

1. Protocol in essence should consist of: SBV
   a) Introduction and objectives of the research project.
   b) Brief review of literature
   c) Suggested materials and methods, and (scheme of work)
   d) Statistician should be consulted at the time of selection of groups, number of cases and method of study. He should also be consulted during the study.
   e) Bibliography
2. The protocol must be presented in the Department of Pulmonary Medicine before being forwarded to the Institutional Research Committee (IRC) for review.
3. Protocol must be approved by the research committee, which is appointed by the Dean / Principal to scrutinize the dissertation protocol in references to its feasibility, statistical validity, ethical aspects, etc.
4. Once approved by the IRC, the protocol will be forwarded to the Institutional Human Ethics Committee (IHEC) for review.
5. After presentation and approval of the protocol by the IHEC, the dissertation must be registered in the Clinical Trial Registry of India - http://ctri.nic.in, following which data collection may be initiated.

Submission of dissertation

1. The dissertation shall relate to the candidates own work on a specific research problem or a series of clinical case studies in accordance with the approved plan.
2. The dissertation shall be written in English, printed or typed double line spacing, on white bond paper 22x28 cm with a margin of 3.5 cm, bearing the matter on one side of paper only and neatly bound with the title, the name of the College and University printed on the front cover.
3. The dissertation shall contain: Introduction, review of literature, material and methods, observations, discussion, conclusion and summary and reference as per index medicus.

4. Each candidate shall submit to the Dean four copies of dissertation, through their respective Heads of the Department not later than six months prior to the date of commencement of theory examination in the subject.

Evaluation of Dissertation:

1. The dissertation shall be referred by the University for Evaluation, to External Examiners appointed by the University. The examiners will evaluate and report independently to the Controller of Examinations using Proforma for Dissertation Evaluation Form and recommend whether the dissertation
    a. Accepted as submitted
    b. Accepted pending modification as suggested
    c. Not Accepted for reasons specified
2. The dissertation shall be deemed to be accepted when it has been approved by at least two external examiners, who will allocate marks from which an average will be taken.
3. If the dissertation is rejected by one of the external examiners it shall be referred to another external examiner (other than the one appointed for initial evaluation) whose judgment shall be final for purposes of acceptance or otherwise of the dissertation.
4. Where improvements have been suggested by the external examiners, the candidate shall be required to re - submit the dissertation, after making the required improvements for evaluation.
5. When a dissertation is rejected by the examiners, it shall be returned to the candidate who shall have to rewrite it. The second version of the dissertation, as and when submitted shall be treated as a fresh dissertation and processed.
6. Acceptance of dissertation submitted by the candidate is a pre - condition for his / her admission to the written, oral and practical / clinical part of the examination.
    a. Provided that under special circumstances if the report from one or more examiners is not received by the time the Post - Graduate examination is due, the candidate may be permitted provisionally to sit for the examination but the result be withheld till the receipt of the report, subject to the condition that if the dissertation is rejected then the candidate in addition to writing a fresh dissertation, shall have to reappear for the examination.
7. A candidate whose dissertation stands approved by the examiners but fails in the examination, shall not be required to submit a fresh one if he/she appears in the examination in the same branch on a subsequent occasion.

Eligibility Criteria

- Candidates will be eligible to appear for the university examinations after completion of 3years and when following criteria are fulfilled:
    1. Attendance of 80%
    2. Submission of dissertation and acceptance by external examiner
    3. One research Publication based on the Dissertation
    4. One poster and one Podium presentation at National or Regional conferences, recognised by Theory (Subject contents already outlined in syllabus)

Theory

- Final Theory Papers: 4 papers
- All papers should have 10 short answer questions.
- Question papers are prepared based on the prescribed blueprint described later (see blueprint section)
- Model question paper is attached for ready reference.

Practical

- The practical examination is structured and consists of 2 sessions- morning and afternoon.

Morning Session			
Clinical Cases	No	Duration	Marks
Long case	1	40 min	100
Short cases	2	30 min + 30 min	100 (50 each)

Afternoon Session	
VIVA (including spotters, Radiology)	Marks:100

- Total Marks allotted:

Segment	Total Marks
Theory (Papers 1 - 4)	400
Practical	200
Viva Voce	100
Grand Total	700

- Recommendations for passing:

1. The candidate will be required to secure minimum 50% marks in theory and 50% marks in clinicals and viva - voce separately, which is mandatory for passing the whole examination.
2. There will be enough gaps between theory and practical examination as recommended by MCI rules.
3. The university practical examination will be conducted by 2 external and 2 internal examiners.

9. Blueprint of Theory Exam Paper

Paper I: General pulmonary medicine and basic sciences

Sl. No.	Discipline	Topics	Weightage	Marks Allotted	No. of Questions
1	Anatomy	Development and Anatomy of Respiratory System; Applied embryology of lungs, mediastinum and diaphragm; Developmental anomalies.	20%	20	2
2	Biochemistry	Biochemical mechanisms relevant to normal and abnormal respiratory conditions; Acid-base and electrolyte balance. SBV	10%	10	1
3	Physiology	Physiological basis of pulmonary symptoms Assessment of pulmonary functions Control of ventilation; pulmonary mechanics Ventilation, pulmonary blood flow, gas exchange and transport; Non-respiratory metabolic functions of lung; Inhalation kinetics and its implication in aerosol therapy; Physiology of sleep and its disorders; Pulmonary innervations and reflexes Pulmonary defense mechanisms Principles of exercise physiology and testing Physiological changes in pregnancy, high altitude and aging.	20%	20	2
4	Pharmacology	Pharmacology of antimicrobial drugs Pharmacology of antitubercular drugs Pharmacology of	10%	10	1

		antineoplastic and immunosuppressant drugs Bronchodilator and anti-inflammatory drugs used in pulmonary diseases Drugs used in viral, fungal and parasitic infections Other drugs pharmacokinetics and drugs interaction of commonly used drugs in pulmonary diseases Pharmacovigilance			
5	Microbiology	Mycobacterium tuberculosis and other Mycobacteria; Bacteria causing pulmonary diseases SBV Atypical organisms and respiratory tract infections Anaerobes in pleuropulmonary infections Laboratory diagnosis of non-tubercular infections of respiratory tract; Laboratory diagnosis of TB including staining, culture and drug sensitivity testing; Virulence and pathogenecity of Mycobacteria; Respiratory viruses: Viral diseases of the respiratory system and diagnostic methods Respiratory fungi: Laboratory diagnostic procedures in pulmonary mycosis HIV and other Opportunistic infections in the immuno-compromised individuals Parasitic lung diseases.	20%	20	2
6	Pathology	Pathogenetic mechanisms in pulmonary diseases Pathology aspects of Tuberculosis Pathology aspects of Pneumonias and	10%	10	1

		Bronchopulmonary suppuration Chronic bronchitis and emphysema, asthma, other airway diseases; Occupational lung diseases including Pneumoconiosis Interstitial lung diseases including sarcoidosis, connective tissue diseases, pulmonary vasculitis syndromes, pulmonary eosinophilia Tumors of the lung, mediastinum and pleura.			
7.	Epidemiology	Epidemiology of tuberculosis, pneumoconiosis, asthma, lung cancer, COPD and other pulmonary diseases National Tuberculosis Control Programme and RNTCP; Epidemiological aspects of BCG Epidemiological aspects of pollution-related pulmonary diseases	10%	10	1

Paper II: Clinical Pulmonary Medicine including respiratory emergencies

Sl. No	Section	Topics	Weightage	Marks Allotted	No. of Questions
1	Infections: Tuberculosis	Etiopathogenesis; Diagnostic methods; Differential diagnosis; Management of pulmonary tuberculosis; NTEP (RNTCP), DOTS, and DOTS-Plus; International Standards of TB Care; Complications in tuberculosis; Tuberculosis in children; Geriatric tuberculosis; Pleural and pericardial effusion and Empyema; Mycobacteria other than tuberculosis; Extra pulmonary	40%	40	4

		tuberculosis; HIV and TB; Diabetes mellitus and tuberculosis; Management of MDR and XDR tuberculosis			
2	Infections: Non-Tuberculous infections of the lungs	Community-acquired pneumonia; Hospital-associated pneumonia, ventilator-associated pneumonia; Unusual and atypical pneumonias including bacterial, viral, fungal and parasitic and Rickettsial, anaerobic; Bronchiectasis, lung abscess and other pulmonary suppurations; Acquired immunodeficiency syndrome and opportunistic infections in immuno-compromised host; Other pneumonias and parasitic infections, Zoonoses	10%	10	1
3	Non-infectious disorders of the lungs	Immune defense mechanisms of the lung; Sarcoidosis; Hypersensitivity Pneumonitis ;Eosinophilic pneumonias and tropical eosinophilia; Pulmonary vasculitides; Connective tissue diseases involving the respiratory system; Interstitial lung disease of other etiologies; Occupational and environmental pulmonary diseases; Aspiration and inhalational (non-occupational) diseases of the lung; Drug induced pulmonary diseases; Bullous lung disease; Uncommon pulmonary diseases (metabolic, immunological, unknown etiology), pulmonary hemorrhagic syndromes; Other pulmonary diseases of unknown etiology including PLCH, LAM, PAP, alveolar microlithiasis; Cystic fibrosis and disorders of ciliary motility; Obesity-related	10%	10	1

		pulmonary disorders Upper airways obstruction syndromes Air-pollution induced diseases, Smoking, toxic lung and other inhalational injuries			
4	Obstructive diseases of the lungs	Asthma including allergic Bronchopulmonary aspergillosis, specific allergen immunotherapy and Immuno modulation; Chronic obstructive lung disease and diseases of small airways Special aspects of management including Long term oxygen therapy, Inhalation therapy and Pulmonary rehabilitation	10%	10	1
5	Medical and surgical respiratory emergencies	Management of emergency problems of different pulmonary diseases; Adult respiratory distress syndrome; Respiratory failure in the patient with obstructive airway disease; Respiratory failure in other pulmonary diseases; Approach to and management of Hemoptysis ; respiratory failure; acute exacerbations of airway diseases; acute exacerbations of interstitial lung diseases; Pulmonary edema; Pulmonary thromboembolic diseases and infarction; Cardiac problems in a pulmonary patient and pulmonary complications produced by cardiac diseases; Tension pneumothorax and Pneumomediastinum; management of acute drug toxicity; Chest trauma/trauma related lung dysfunction; oxygen therapy	30%	30	3

Paper III: Clinical Pulmonary Medicine including Critical Care Medicine

Sl. No	Section	Topics	Weight age	Marks Allotted	No. of Questions
1	Infections: Tuberculosis & Non-Tuberculous infections of the lungs	Etiopathogenesis; Diagnostic methods; Differential diagnosis; Management of pulmonary tuberculosis; NTEP (RNTCP), DOTS, and DOTS-Plus; International Standards of TB Care; Complications in tuberculosis; Tuberculosis in children; Geriatric tuberculosis; Pleural and pericardial effusion and Empyema; Mycobacteria other than tuberculosis; Extra pulmonary tuberculosis; HIV and TB; Diabetes mellitus and tuberculosis; Management of MDR and XDR tuberculosis; Community-acquired pneumonia; Hospital-associated pneumonia, ventilator-associated pneumonia; Unusual and atypical pneumonias including bacterial, viral, fungal and parasitic and Rickettsial, anaerobic; Bronchiectasis, lung abscess and other pulmonary suppurations; Acquired immunodeficiency syndrome and opportunistic infections in immuno-compromised host; Other pneumonias and parasitic infections, Zoonoses	20%	20	2
2.	Non-infectious disorders of the	Immune defense mechanisms of the lung;	20%	20	2

	lungs	Sarcoidosis; Hypersensitivity Pneumonitis ;Eosinophilic pneumonias and tropical eosinophilia; Pulmonary vasculitides; Connective tissue diseases involving the respiratory system; Interstitial lung disease of other etiologies; Occupational and environmental pulmonary diseases; Aspiration and inhalational (non-occupational) diseases of the lung; Drug induced pulmonary diseases; Bullous lung disease; Uncommon pulmonary diseases (metabolic, immunological, unknown etiology), pulmonary hemorrhagic syndromes; Other pulmonary diseases of unknown etiology including PLCH, LAM, PAP, alveolar microlithiasis; Cystic fibrosis and disorders of ciliary motility; Obesity-related pulmonary disorders Upper airways obstruction syndromes Air-pollution induced diseases, Smoking, toxic lung and other inhalational injuries			
3.	Pulmonary Circulatory disorders& Diseases of the Mediastinum, Pleura, diaphragm and chest wall	Pulmonary hypertension and cor pulmonale; Pulmonary thromboembolic diseases and infarction; Non-neoplastic mediastinal disorders; Benign and malignant (primary and	10%	10	1

		secondary) neoplasms and cysts; Non-neoplastic and neoplastic pleural diseases; Pneumothorax Pyothorax and broncho-pleural fistula Fibro thorax; Diseases of the diaphragm; Disorders of chest wall.			
4.	Tumors of the lungs	Neoplastic and non-neoplastic diseases of lung including epidemiology, natural history, staging, and principles of treatment (medical, surgical, and radiation); Solitary pulmonary nodule	10%	10	1
5.	Sleep Medicine; Surgical and preventive aspects of Pulmonary Medicine	Polysomnography; Sleep apneas; Other sleep-disordered breathing syndromes; Obesity-related pulmonary disorders; Principles of smoking cessation and smoking cessation strategies; Cardiopulmonary rehabilitation Vaccination in pulmonary diseases; Pre- and post-operative evaluation and management of thoracic surgical patients Lung transplantation.	10%	10	1
6.	Critical Care Pulmonary Medicine	Management of sepsis; Respiratory and hemodynamic monitoring in acute respiratory failure; Non-invasive and Mechanical ventilation; Principles of critical care, diagnosis and management of complications; severity	30%	30	3

		of illness scoring systems; Ethical and end-of-life issues in critical care;			

Paper IV: Recent advances in pulmonary medicine and research methodology

Sl. No	Section	Topics	Weightage	Marks Allotted	No. of Questions
1	Infections: Tuberculosis & Non-Tuberculous infections of the lungs	Current advances in the diagnosis , therapeutics and Management of pulmonary tuberculosis; Updates on the programmatic TB Management -NTEP (RNTCP), DOTS, and DOTS-Plus; International Standards of TB Care; END TB Strategy; Guidelines on the management of Mycobacteria other than tuberculosis and Extra pulmonary tuberculosis; HIV and TB; Diabetes mellitus and tuberculosis; Management of MDR and XDR tuberculosis; Current guidelines on the diagnosis, therapeutics and management of Community-acquired pneumonia; Hospital-associated pneumonia, ventilator-associated pneumonia.	20%	20	2
2.	Non-infectious disorders of the lungs	Current guidelines on the diagnosis, therapeutics and management of Sarcoidosis; Pulmonary vasculitides; Connective tissue diseases involving the respiratory system; IPF and Interstitial lung disease of other	20%	20	2

		etiologies; Occupational and environmental pulmonary diseases; Orphan and Uncommon pulmonary diseases (metabolic, immunological, unknown etiology), pulmonary hemorrhagic syndromes; Cystic fibrosis and disorders of ciliary motility; Obesity-related pulmonary disorders; Smoking, toxic lung and other inhalational injuries			
3.	Pulmonary neoplasms and vascular disorders	Current guidelines on the diagnosis, therapeutics and management of lung malignancies including epidemiology, natural history, staging, and principles of treatment (medical, surgical, and radiation); Updated recommendations on approach to Solitary pulmonary nodule; Current guidelines on the diagnosis, therapeutics and management Pulmonary hypertension and cor pulmonale; Pulmonary thromboembolic diseases and infarction;	10%	10	1
4.	Critical care and sleep medicine	Advances in Management of sepsis; Respiratory and hemodynamic monitoring in acute respiratory failure; Non-invasive and Mechanical ventilation; Palliative care in Pulmonary Medicine Recent advances in Sleep Medicine	20%	20	2

5.	Interventional Pulmonology	Recent advances in Bronchoscopy, Thoracoscopy, Guided interventional procedures.	20%	20	2
6.	Research Methodology	Research methodology, statistics and study designs	10%	10	1

10. Model Question Paper

Sri Balaji Vidyapeeth

Pillaiyarkuppam, Puducherry-607402

Department of Pulmonary Medicine

Paper – I: General pulmonary medicine and basic sciences

Time: 3 Hours **Maximum Marks: 100**

1. **Answer ALL Questions**
2. **Illustrate your answers with suitable diagrams**
3. **Answers to short essay questions may be written in approximately 300 to 400 words**

Write Short Essay Questions on: SBV

1. Congenital anomalies of the diaphragm.
2. Compartments of mediastinum and the common diseases affecting them.
3. Flow-volume loops and its clinical relevance in diagnosing respiratory diseases.
4. Oxygen dissociation curve.
5. Newer culture methods for *Mycobacterium tuberculosis*.
6. Nontuberculous mycobacteria (NTM) – classification, diagnosis.
7. Pulmonary alveolar macrophages.
8. Newer long acting beta-2 agonists (LABAs).
9. Global epidemiology of COPD compared to Indian scenario.
10. Pathogenesis, clinical features and management of respiratory acidosis.

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Paper –II: Clinical pulmonary medicine including emergencies

Time: 3 Hours **Maximum Marks: 100**

1. **Answer ALL Questions**
2. **Illustrate your answers with suitable diagrams**
3. **Answers to short essay questions may be written in approximately 300 to 400 words**

Write Short Essay Questions on:

1) Discuss the pathogenesis, clinical features and management of Lymph node Tuberculosis. SBV
2) Define Drug resistance in Tuberculosis and discuss in detail the management of Drug resistant Tuberculosis.
3) Briefly discuss the role of corticosteroids in Tuberculosis
4) Describe in detail END TB STRATEGY
5) Define ventilator associated Pneumonia – diagnosis, management and preventive strategies.
6) Discuss pulmonary manifestation of Collagen vascular diseases.
7) Describe the Pathophysiology, clinical features and management of Allergic Broncho pulmonary Aspergillosis.
8) Define ARDS, diagnostics methods, causes and recent management.
9) Describe in detail Respiratory failure – types, causes and management.
10) Define Pneumothorax, classify and management of tension Pneumothorax.

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Department of Pulmonary Medicine

Paper –III: Clinical Pulmonary Medicine including Critical Care Medicine

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Time: 3 Hours **Maximum Marks: 100**

1. **Answer ALL Questions**
2. **Illustrate your answers with suitable diagrams**
3. **Answers to short essay questions may be written in approximately 300 to 400 words**

Write Short Essay Questions on:

1) Standards of TB care in India
2) Diagnosis, classification and management Pneumocystis pneumonia in HIV
3) Diagnosis and management of Sarcoidosis
4) Multicystic lung disease
5) Classification of Pulmonary Hypertension and treatment of pulmonary hypertension secondary to lung disorder
6) Immunotherapy in lung carcinoma
7) Preoperative pulmonary evaluation for pulmonary resection.
8) Definition of sepsis and septic shock. Management of sepsis.
9) Management of acute hypercapnoeic respiratory failure.
10) ARDS- Berlin criteria and ventilator management of ARDS.

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Department of Pulmonary Medicine

Paper –IV: Recent advances in pulmonary medicine and research methodology

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Time: 3 Hours **Maximum Marks: 100**

1. **Answer ALL Questions**
2. **Illustrate your answers with suitable diagrams**
3. **Answers to short essay questions may be written in approximately 300 to 400 words**

Write Short Essay Questions on:

1. What is the vision, goals and targets of National Strategic Plan (NSP) for TB elimination? Briefly outline the four strategic pillars of TB elimination.
2. Briefly outline the recent advances in the management of Hospital acquired pneumonia. Write a short note on inhaled antibiotic therapy in a critically ill patient.
3. Current updates in the diagnosis, therapeutics and management of sarcoidosis.
4. Explain in detail the epidemiology, pathogenesis, clinical features and management of malignant mesothelioma.
5. Recent recommendations on the approach to a case of solitary pulmonary nodule.
6. Briefly outline the treatment strategies for a critically ill COVID-19 patient.
7. Recent advances in the diagnosis and management of obstructive sleep apnea.
8. Explain the newer methods in the bronchoscopic diagnosis of lung cancer
9. Discuss in detail about percutaneous non-vascular interventions in the thorax.
10. List the different study designs. Write a note on systematic review.

11. Recommended Reading

List of recommended books

S. No	Name of the book	Author name
1.	Fishman's Pulmonary Diseases and Disorders	Micheal. A. Grippi
2.	Murray & Nadel Textbook of Respiratory Medicine	Broaddus VC
3.	Crofton and Douglas Respiratory Diseases	Douglas Seaton
4.	Diagnosis of Diseases of Chest	Fraser & Pare
5.	Egan's Fundamentals of Respiratory Care	Kacmarek
6.	Pleural Diseases	Richard W. Light
7.	Textbook of Pulmonary Medicine	S.K. Jindal
8.	Synopsis of diseases of the chest	G. Fraser
9.	Respiratory Medicine	G John Gibson, Duncan
10.	Asthma and COPD: Basic Mechanisms & Clinical Management	Peter J. Barnes
11.	HRCT Chest	Richard W. Webb
12.	Muller's Imaging of the Chest	Christopher Walker, J. Chung
13.	Imaging of diseases of the chest	David M. Hansell, D. A. Lynch
14.	Computed Tomography of Interstitial Lung Diseases	Bhavin Jhankaria
15.	Felson's Principles of Chest Roentgenology	Lawrence R. Goodman
16.	Chest Roentgenology	Benjamin Felson
17.	Principles of Chest X-ray Diagnosis	George Simon
18.	Tuberculosis	Surendra K. Sharma
19.	Case Finding and Chemotherapy in Tuberculosis	Toman
20.	Tuberculosis	Rom and Gary
21.	Fundamentals of Sleep Medicine	Richard R.Berry
22.	Principles and Practice of Sleep Medicine	Meir Kryger, T. Roth, W. Dement
23.	Sleep Medicine: Essentials and Review	Lee-Chiong Teofilo
24.	Allergens and Allergen Immunotherapy: Subcutaneous, Sublingual, and Oral	Richard F. Lockey, D. K. Ledford
25.	Middleton Allergy Principle and Practice	A. Borks, S. Holgate, D. Broide
26.	Manual of Allergy and Immunology	Daniel C. Adelman
27.	The Mediastinum: Radiologic Correlations with Anatomy and Pathology	E. Robert Heitzman
28.	Asthma: Its Pathology and Treatment	Kalonier, Barnes, Persson

29.	Clinical Mycology	Anaissie, Mc Gnnis, T. Faller
30.	Interpretation of Pulmonary Function	R. E. Hyatt, P. D. Scanlon
31.	Pulmonary Function Testing: Principles and Practice	S. A. Conrod
32.	Lung function for clinician	D.T.D.Hughes, D.W.Empey
33.	Respiration Function in Diseases	David V.Bates
34.	Flexible Bronchoscopy	K P Wang, Atul C. Mehta
35.	Atlas of procedures in Respiratory medicine	Murray & Nadel
36.	Diagnostic Bronchoscopy: A Teaching Manual	Peter Stadling
37.	The ICU book	Paul L. Marino
38.	Practical approach to Critical Respiratory Medicine	V. K. Arora
39.	Clinical Applications of Mechanical Ventilation	David W. Chang
40.	ICU Manual	A P Jain, R Joshi, Ashish Goel
41.	Respiratory care Anatomy and Physiology	W. Beachey
42.	Cardiovascular and Pulmonary Physical Therapy	Donna Frownfelter,Elizabeth Dean
43.	Pulmonary Rehabilitation (Lung Biology in Health and Disease)	A. Fishman
44.	Textbook of Pulmonary Rehabilitation	**Clini**. E., **Holland**. A.E.
45.	Pulmonary Rehablitation	John Hodgkin, B. Celli, G. Connors
46.	TB Handbook	WHO
47.	Auscultation Skills: Breath & Heart Sounds	Jessica Shank Coviello
48.	Handbook on Clinical Approach to Pulmonary Medicine	K. Surendra Menon, Pajanivel R
49.	Clinical Respiratory Medicine	Stephen G. Spiro & Silvestri
50.	Macleods clinical Examinations	J. Alastair Innes, A. Dobar
51.	Hutchinson's Clinical Methods	Michael Glynn, William Drake
52.	Chamberlain's Symptoms and Signs in Clinical Medicine	David Gray, Andrew R. Houghton
53.	Wilkins' Clinical Assessment in Respiratory Care	Albert.J.Heuer, Graig L.Scanlan
54.	Physical Diagnosis - A Textbook of Symptoms and Physical Signs	Vakil & Golwalla
55.	Davidson's Principles & Practices of Medicine	Stuart Ralston, R.Hobson, I.Penman
56.	Harrison's Principles of Internal Medicine	J.L.Jameson, A.S.Fauci, D.L.Kasper

57.	Medical PG Dissertations A Step by step Guide	N.Ananthakrishnan
58.	Textbook of Preventive and Social Medicine	J.E.Park
59.	Computed tomography and MRI of thorax	Naidich
60.	Imaging of the Chest	Silva & Mueller
61.	Respiratory Physiology	J.B. West
62.	Pharmacology and Pharmacotherapeutics	RS Satoskar, SD Bhandarkar
63.	Segmental Anatomy of Lungs	Boyden
64.	Surgery of the Chest	John Heysham Gibbon
65.	Sabiston and Spencer Surgery of the Chest	Frank Sellke, P Nido, S. Swanson
66.	Management of the Mechanically Ventilated Patient	Lynelle N. B. Pierce

List of recommended journals

1. Both online and printed Journals SBV

S. No	Name of the Journal
1	Respiratory Medicine
2	Chest
3	Thorax
4	Clinics in Chest Medicine
5	European Respiratory Journal (ERJ)
6	American Journal of Respiratory and Critical Care Medicine
7	British Medical Journal (BMJ)
8	New England Journal of Medicine (NEJM)
9	Lancet
10	Journal of American Medical Association (JAMA)
11	International Journal of Tuberculosis and Lung Diseases
12	Indian Journal of Chest Diseases and Allied Sciences
13	Lung India

2. Online Journals

S. No	Name of the Journal
1	Bulletin, WHO
2	Indian Journal of Tuberculosis

Annexures - Assessment and Feedback forms

Annexure-1:

Entrustable Professional Activities Assessment

Sri Balaji Vidyapeeth

Pillaiyarkuppam, Puducherry-607 402

Department of Pulmonary Medicine

Entrustable Professional Activities Assessment Form

Name of the Resident: _____ UIN No: _____

Levels of competence:

- **Level I:** Knowledge only; can observe
- ***Level II(A)*:** Can assist properly
- ***Level II(B)*:** Can do under strict supervision
- ***Level III***: Can do under loose supervision (Entrust ability decision to be made based on milestones)
- ***Level IV:*** Can do independently
- ***Level V:*** Has expertise to teach others

EPAs		On the day joining	At the end of 1 month	At the end of 3 months/ 1st Quarter		At the end of 6 months/ 2nd Quarter	
		Resident	Resident	Faculty	Resident	Faculty	Resident
GENERAL							
1	History taking with focus on Respiratory System and general physical examination						
2	Formulating a differential diagnosis based on history and examination						
3	Ordering and interpretation of common diagnostic tests (like respiratory specimen sampling)						
4	Entering and discussing orders and prescriptions and giving the necessary instructions to the patients						

5	Document clinical details in the patient record						
6	Clinical presentation of a case						
7	Using evidence based medicine to improve patient care						
8 9	Give or receive a patient handover to transition care responsibility Participating efficiently as a member of an interprofessional team						
10	Diagnosing conditions requiring emergency care and providing primary care						
11	Obtain informed consent for tests and/or procedures						
	Signature of the resident						
	Signature of the faculty						
	Signature of the HOD						

		At the end of 9 months/**3rd Quarter**		At the end of 12 months/**4th quarter**	
		Resident	**Faculty**	**Resident**	**Faculty**
12	Performing basic diagnostic respiratory tests (Sputum smear examination for AFB,TST,Pleural aspiration,ABG)				
13	Performing complex diagnostic respiratory tests (Spirometry, DLCO, Allergic skin tests,PSG)				
14	Performing complex interventional procedures (ICD insertion , pleural biopsy, Bronchoscopy and procedures, Thoracoscopy)				
15	Patient counseling for diagnostic and therapeutic interventions (HIV testing, initiation of ATT, aerosol therapy, Pulmonary rehabilitation etc.)				
	Signature of the resident				

	Signature of the faculty	
	Signature of the HOD	

Second year of the residency

		At the end of 18 months/ 5th Half yr		At the end of 24 months/ 6th Half yr	
		Resident	Faculty	Resident	Faculty
12	Performing basic diagnostic respiratory tests (Sputum smear examination for AFB,TST,Pleural aspiration,ABG)		SBV		
13	Performing complex diagnostic respiratory tests (Spirometry, DLCO, Allergic skin tests,PSG)				
14	Performing complex interventional procedures (ICD insertion , pleural biopsy, Bronchoscopy and procedures, Thoracoscopy)				
15	Patient counseling for diagnostic and therapeutic interventions (HIV testing, initiation of ATT, aerosol therapy, Pulmonary rehabilitation etc.)				
	Signature of the resident				
	Signature of the faculty				
	Signature of the HOD				

Third year of the residency

		At the end of 30 months/ 7th Half yr		At the end of 36 months/ 8th Half yr	
		Resident	Faculty	Resident	Faculty
12	Performing basic diagnostic respiratory tests (Sputum smear examination for AFB,TST,Pleural aspiration,ABG)				
13	Performing complex diagnostic respiratory tests (Spirometry, DLCO, Allergic skin tests,PSG)				
14	Performing complex interventional procedures (ICD insertion , pleural biopsy, Bronchoscopy and procedures, Thoracoscopy)	SBV			
15	Patient counseling for diagnostic and therapeutic interventions (HIV testing, initiation of ATT, aerosol therapy, Pulmonary rehabilitation etc.)				
	Signature of the resident				
	Signature of the faculty				
	Signature of the HOD				

Annexure II

Postgraduate Students Appraisal Form

Sri Balaji Vidyapeeth

Pillaiyarkuppam, Puducherry-607 402

Department of Pulmonary Medicine

Name of the PG Student :

Period of Training : FROM……TO……

Sr. No.	PARTICULARS	Not Satisfactory	Satisfactory	More Than Satisfactory	Remarks
		1 2 3	4 5 6	7 8 9	
1.	Journal based/recent advances learning				
2.	Patient based /Laboratory or Skill based learning	SBV			
3.	Self directed learning and teaching				
4.	Departmental and interdepartmental learning activity				
5.	External and Outreach Activities / CMEs				
6.	Thesis/Research work				
7.	Log Book Maintenance				

Publications

Yes/No

Remarks* _____

_____

_____

_____

***REMARKS: Any significant positive or negative attributes of a postgraduate student to be mentioned. For score less than 4 in any category, remediation must be suggested. Individual feedback to postgraduate student is strongly recommended.**

Signature of Assessee Signature of Consultant Signature of HOD

Annexure III:

Multisource feedback

Sri Balaji Vidyapeeth

Pillaiyarkuppam, Puducherry-607 402

Department of Pulmonary Medicine

EVALUATION SHEET FOR POSTGRADUATE CLINICAL WORK

(To be completed by Peer)

Name of the Resident: …… UIN No.: ……

Name of the Respondent: …… Date: ……

Sl. No.	Criteria to be assessed SBV	Score		
		Below par (1)	At par (2)	Above par (3)
1.	Shows a caring attitude to patients			
2.	Is respectful towards patients			
3.	Shows no prejudice in the care of patients			
4.	Communicates and counsels effectively patients and patient's relatives			
5.	Critically evaluates and uses patient outcomes to improve patient care			
6.	Communicates effectively with colleagues			
7.	Communicates effectively with other health professionals			
8.	Acknowledges gaps in personal knowledge and expertise, and frequently asks for feedback			
9.	Regularity and punctuality of attendance			
10.	Works constructively in the health care system			
		Total score:		
	General Comments:			
	Highlights in performance (strengths)			
	Possible suggested areas for improvement (weakness)			
	Signature:			

EVALUATION SHEET FOR POSTGRADUATE CLINICAL WORK

(To be completed by Patient/Relative)

Name of the Resident: …… UIN No.: ……

Name of the Respondent:……. Date: …….

Sl. No.	Criteria to be assessed	Score		
		Below par (1)	At par (2)	Above par (3)
1.	Shows a caring attitude to patients			
2.	Is respectful towards patients			
3.	Shows no prejudice in the care of patients			
4.	Communicates effectively with patients			
5.	Empathetic counseling of patient's relatives			
6.	Effectively counsels patients preoperatively and postoperatively SBV			
7.	Takes religious and social considerations into account when making decisions			
8.	Allows patients to make an informed decision regarding management and allows them to express their doubts and concerns			
9.	Takes financial situation of patient into consideration when making decisions			
10.	Discusses each step of the management with the patient and relatives			
		Total score:		
	General Comments:			
	Highlights in performance (strengths)			
	Possible suggested areas for improvement (weakness)			
Signature:				

EVALUATION SHEET FOR POSTGRADUATE CLINICAL WORK

(To be completed by Nurse / Technician / Other Health Professionals)

Name of the Resident: …….. UIN No.: …….

Name of the Respondent: ……. Date: ……

Sl. No.	Criteria to be assessed	Score		
		Below par (1)	At par (2)	Above par (3)
1.	Shows a caring attitude to patients			
2.	Is respectful towards patients			
3.	Shows no prejudice in the care of patients			
4.	Communicates effectively with patients			
5.	Empathetic counseling of patient's relatives			
6.	Communicates effectively with colleagues			
7.	Communicates effectively with other health professionals			
8.	Allows them to express their doubts or concern regarding clinical decisions			
9.	Proper and complete documentation			
10.	Works constructively in the health care system			
		Total score:		
	General Comments:			
	Highlights in performance (strengths)			
	Possible suggested areas for improvement (weakness)			
	Signature:			

EVALUATION SHEET FOR POSTGRADUATE CLINICAL WORK

(To be completed by respective Unit Head)

Name of the Resident: …….. UIN No.: …….

Name of the Faculty: ……. Date: ……

Sl. No.	Criteria to be assessed	Score		
		Below par (1)	At par (2)	Above par (3)
1.	History taking and physical examination			
2.	Regularity and punctuality			
3.	Ability to identify patient's problems			
4.	Patient management skills			
5.	Procedural skills / range of clinical technical skills			
6.	Self directed learning			
7.	Communication skills			
8.	Proper and complete documentation			
9.	Relationship with peers			
10.	Works constructively in the health care system			
		Total score:		
	General Comments:			
	Highlights in performance (strengths)			
	Possible suggested areas for improvement (weakness)			
	Signature:			

Annexure IV:

Work Place Based Assessment

Sri Balaji Vidyapeeth

Pillaiyarkuppam, Puducherry-607 402

Department of Pulmonary Medicine

Objectives:

1. To improve patient care
2. For the overall development of a post graduate

Principles:

To impart the concept of comprehensive development of a post graduate rather than a mere specialist in the chosen speciality, multidimensional feedback were taken and assessed every quarter

Work place based assessment commences once the post graduate students are admitted every year. This is done in a systemic way by various faculty members, which in turn will be handed over to the Head of the department for final assessment. If any deficiency is noted in any of the 10 points mentioned below, he / she has to take more effort to improve in that particular aspect. The following parameters are assessed:

1. Patient Care
2. Bedside manners
3. Proper History taking
4. Leadership qualities
5. Documentation & Record keeping
6. Interaction with patient & relatives
7. Attendance & Punctuality
8. Dress code
9. Tackling emergencies
10. Behavior with support staff

Review of the parameters is done systematically every month and the report of the same is shared electronically with their parents/guardians and their suggestions are taken into account.

Annexure V & Annexure VI:

Feedback for Seminar, Short topic & Journal club

(Along with ACTION TAKEN REPORT template)

Sri Balaji Vidyapeeth

Pillaiyarkuppam, Puducherry-607 402

Department of Pulmonary Medicine

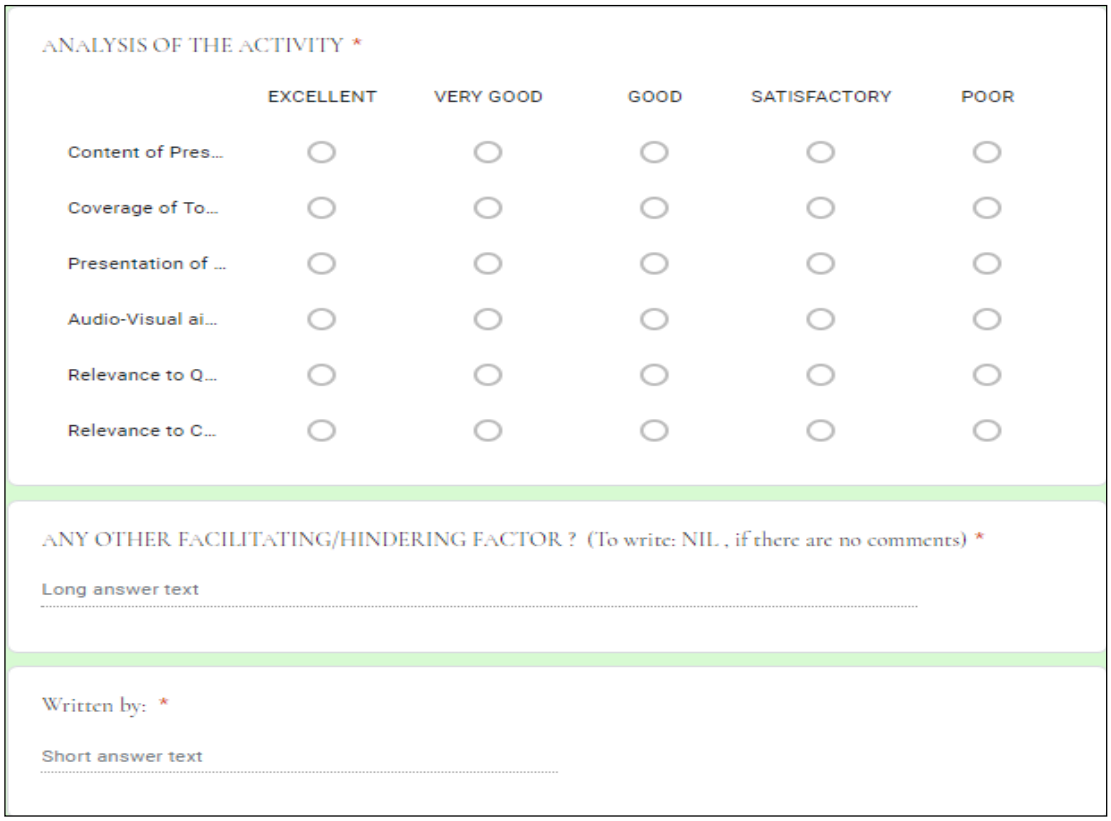
EVALUATION SHEETS FOR POSTGRADUATE SEMINAR, SHORT TOPIC &JOURNAL CLUB

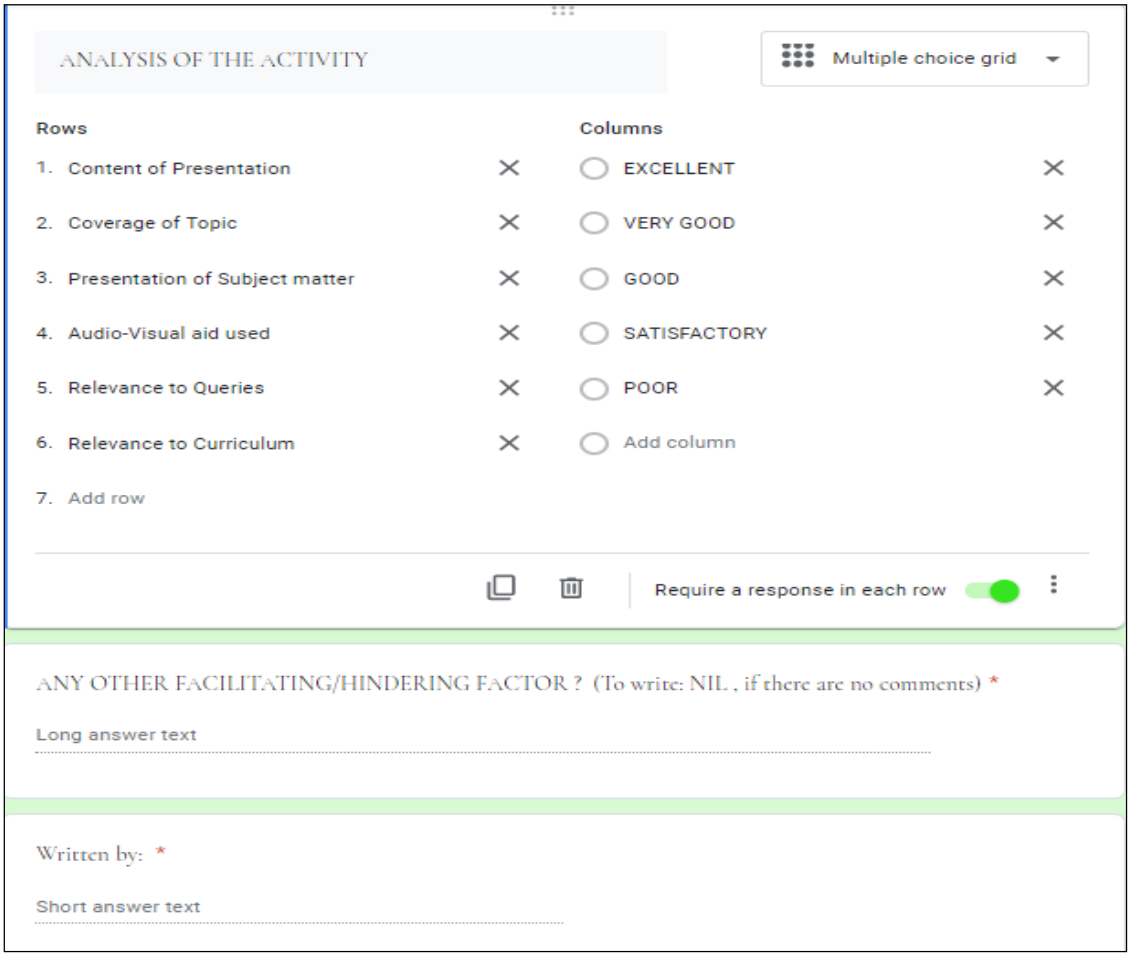
(To be marked individually by each faculty)

Name of the Resident: ……. UIN No.: …….

Name of the Faculty: ……. Date: …….

SBV


ANALYSIS OF THE ACTIVITY *
EXCELLENT
VERY GOOD
GOOD
SATISFACTORY
POOR
Content of Pres...
Coverage of To...
Presentation of ...
Audio-Visual ai...
Relevance to Q...
Relevance to C...
ANY OTHER FACILITATING/HINDERING FACTOR ? (To write: NIL , if there are no comments) *
Long answer text
Written by: *
Short answer text


ANALYSIS OF THE ACTIVITY
Multiple choice grid
Rows
Columns
1. Content of Presentation
2. Coverage of Topic
3. Presentation of Subject matter
4. Audio-Visual aid used
5. Relevance to Queries
6. Relevance to Curriculum
7. Add row
EXCELLENT
VERY GOOD
GOOD
SATISFACTORY
POOR
Add column
Require a response in each row
ANY OTHER FACILITATING/HINDERING FACTOR ? (To write: NIL , if there are no comments) *
Long answer text
Written by: *
Short answer text

PG ACADEMICS: FEEDBACK REPORT

Name of the Resident: …….. **UIN number: ……**

Feedback obtained on ***Seminar / Short topic / Journal club (Tick the relevant title)***

Topic (Seminar/Short topic): ……..

Feedback provided by ***Faculty and Residents***

Feedback period: ***(Month / Year)***

S. No.	Details	Remarks
1	Total number of participants to provide feedback	*(mention number)*
2	Total number of participants who provided feedback	*(mention number)*
3	Percentage of feedback responses collected	
4	Positive pointers	*(List important positive pointers provided by the participant)*
5	Suggestions/ recommendation to improve	*(List important suggestions to improve provided by the participant)*

Compiled by:

(Name/ Signature with Date)

Endorsed by:

(Name/ Signature with Date)

PG ACADEMICS: ACTION TAKEN REPORT

Name of the Resident: ……. **UIN number: …….**

The following actions were taken based on the feedback analysis and report, for the period of ……. (Month /Year)

S. No.	Observations from feedback that warrants action	Action taken
1		
2		
3		

Compiled by:

(Name/ Signature with Date)

Endorsed by:

(Name/ Signature with Date)

Annexure VII:

Feedback for Case presentation

Sri Balaji Vidyapeeth

Pillaiyarkuppam, Puducherry-607402

Department of Pulmonary Medicine

EVALUATION SHEET FOR POSTGRADUATE CASE PRESENTATION

(To be marked individually by each faculty)

Name of the Resident: …… UIN No.: ……

Name of the Faculty: …….. Date: ……..

S. No.	Criteria to be assessed	Score		
		Below par (1)	At par (2)	Above par (3)
1	Logical order in presentation (History taking)			
2	Cogency of presentation			
3	Accuracy and completeness of general and local physical examination			
4	Other systemic examination			
5	Summarizes the case and analyses the appropriate differential diagnoses			
6	Whether the diagnosis follows logically from history and findings			
7	Investigations required : Completeness of list, relevant order, interpretation of investigations			
8	Management principles and details			
9	Time management			
10	Overall performance – relevant answers to questions, attitude during presentation and confidence			
		Total score:		
	General Comments:			
	Highlights in performance (strengths)			
	Possible suggested areas for improvement (weakness)			
	Signature:			

Annexure VIII:

Dissertation evaluation form

Sri Balaji Vidyapeeth

Pillaiyarkuppam, Puducherry – 607 402

Proforma for evaluation of Dissertation

UIN: ……..

Topic of the study:

_____

_____

_____

DISSERTATION COMPONENTS	Grade		
TITLE			
Title appropriate and clear	A	B	C
INTRODUCTION			
Purpose of the Study	A	B	C
Hypothesis/Research Question	A	B	C
Aims & Objectives	A	B	C
REVIEW OF LITERATURE			
Appropriate	A	B	C
Complete and current	A	B	C
METHODS			
Study subjects, controls, Inclusion and Exclusion criteria	A	B	C
Materials/Apparatus/Cases	A	B	C
Methodology used	A	B	C
Procedure for data collection	A	B	C
Appropriate statistical methods employed	A	B	C
Handling of ethical issues	A	B	C
RESULTS			
Logical organization of data	A	B	C
Appropriate use of charts, tables, Graphs, figures, etc.	A	B	C
Statistical/Clinical interpretation	A	B	C
DISCUSSION			
Appropriate to data	A	B	C
Discussion and implication of results	A	B	C
Comparison with other studies	A	B	C
Satisfactory explanation of deviations if any	A	B	C
Limitations of the study	A	B	C
Recommendation for future studies	A	B	C
CONCLUSION			

Relevance, are they in line with aims	A	B	C
SUMMARY			
Clear and Concise	A	B	C
REFERENCES			
Vancouver Format and appropriately cited in text.	A	B	C

Key for grading – A – Exceeds expectation, B – Meets expectation, C – Needs Improvement

Overall Impression

(Please Check the appropriate box)

☐ Accepted as submitted

☐ Accepted pending modification as suggested below

☐ Not Accepted for reasons specified below

SBV

Remarks:

Signature of the examiner with date