

MANIPAL ACADEMY OF HIGHER EDUCATION
MD (RESPIRATORY MEDICINE) DEGREE EXAMINATION – JANUARY 2025
(REGULAR)
PAPER I

Tuesday, January 14, 2025

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Your answers should be specific to the questions asked.**

✍ **Draw neat, labelled diagrams wherever necessary.**

✍ **Long Essay:**

1. Describe the anatomy of bronchopulmonary segments and its clinical significance. (15 marks)

2. Discuss in detail the stages of development of the lung. (15 marks)

3. **Short Essay:**

3A. Equal pressure point theory

3B. Pulmonary interstitium

3C. Thoracic duct

3D. Impulse oscillometry

3E. J receptors

3F. Anatomy of diaphragm

3G. ARDS in new-born

3H. Haldane effect

3I. Dead space

3J. Flow volume loop

(7 marks × 10 = 70 marks)



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PAPER II

Wednesday, January 15, 2025

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Your answers should be specific to the questions asked.**

✍ **Draw neat labelled diagrams wherever necessary.**

✍ **Long Essay:**

1. Define small airway disease. Elaborate clinicopathological details of any one small airway disease prototype. List the diagnostic modalities in small airway disease.

(2+6+7 = 15 marks)

2. Discuss in brief the risk factors for asthma- Endogenous and Environmental. Explain the pathophysiological basis of exercise induced and NSAID induced asthma. A note on investigations to assess airway hyperreactivity and atopy in asthma.

(5+5+5 = 15 marks)

3. **Short Essay:**

- 3A. Hyperinflation – Pathophysiology and spirometry diagnosis
- 3B. Role of eosinophils and eosinophil products in asthma
- 3C. Complications of bullous lung disease
- 3D. Idiopathic bronchiectasis.
- 3E. Radiological characteristics and criterion of UIP pattern.
- 3F. Indications and trials for domiciliary oxygen in chronic respiratory diseases
- 3G. ANCA associated pulmonary vasculitis
- 3H. Thrombolytic therapy in PTE
- 3I. Risk assessment in PAH
- 3J. Assessment and management of dyspnoea

(7 marks × 10 = 70 marks)



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PAPER III

Thursday, January 16, 2025

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Your answers should be specific to the questions asked.**

✍ **Draw neat labelled diagrams wherever necessary.**

✍ **Long Essay:**

1. Enumerate the WHO classification of pulmonary hypertension and describe the pathophysiology, diagnostic tools and current trends in the management of pulmonary hypertension.

(15 marks)

2. Describe the aetiology, pathology, clinical features, complications and management of lymph node tuberculosis.

(15 marks)

3. **Short Essay:**

3A. Management of tuberculous pleural effusion in chronic kidney disease.

3B. Permissive hypercapnia

3C. Endobronchial tuberculosis.

3D. Strategies for the prevention of ventilator associated pneumonia.

3E. Treatment of non-tuberculous mycobacterial infections in the lung.

3F. Pulmonary *oxygen toxicity*.

3G. Immune reconstitution inflammatory syndrome.

3H. Hyponatremia.

3I. Tuberculosis preventive treatment (TPT) regimens for the household contacts of a drug-resistant patient as per the latest NTEP guidelines.

3J. Caisson's disease.

(7 marks × 10 = 70 marks)



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PAPER IV

Friday, January 17, 2025

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Your answers should be specific to the questions asked.**

✍ **Draw neat labelled diagrams wherever necessary.**

✍ **Long Essay:**

1. Describe in detail the indications and complications of lung transplantation. (15 marks)

2. Discuss in detail about the individual components of a comprehensive Pulmonary Rehabilitation (PR) program. (15 marks)

3. **Short Essay:**

3A. What are the indications and contra-indications of prone ventilation

3B. Write a short note on the various mediastinal lymph node stations and its sampling techniques

3C. What is the role of actigraphy in evaluation of sleep disorders

3D. Write a note on principle, Indications and Contra-indications of Average volume assured pressure support ventilation

3E. Write a note on assessment of fitness for air travel in patients with pulmonary diseases

3F. Write a note on role of liquid biopsies in lung cancer

3G. BPAL regimen for treatment of tuberculosis

3H. Cohort study

3I. Autofluorescence bronchoscopy

3J. Write a short note on the vaccines commonly used in patients with COPD.

(7 marks × 10 = 70 marks)

