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## MANIPAL ACADEMY OF HIGHER EDUCATION

MD (RESPIRATORY MEDICINE) DEGREE EXAMINATION – NOVEMBER 2025

### PAPER I

Monday, November 10, 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 Essays:**

1. Describe various inherited genetic diseases of the bronchial tree and lung parenchyma. Give a brief account of genetic syndromes associated with immune deficiency of the lung.

(15 marks)

2. Draw a diagram showing the site of possible herniation of diaphragmatic hernia. Define Morgagni hernia. Write its clinical presentation and management.

(15 marks)

3. **Short Essays:**

3A. Innate immunity in the lungs. Write a note on lung macrophages.

3B. Renal contribution to acid-base balance. Utility of anion gap. Urine anion gap.

3C. Write notes on cough reflex and J receptors.

3D. Structure of acinus and function of alveolocapillary membrane.

3E. Phosphodiesterase inhibitors.

3F. Respiratory muscles.

3G. Dead space.

3H. Mast cells in pulmonary diseases.

3I. Equal pressure point.

3J. Physiological changes of the respiratory system in pregnancy.

(7 marks × 10 = 70 marks)





**MANIPAL ACADEMY OF HIGHER EDUCATION****MD (RESPIRATORY MEDICINE) DEGREE EXAMINATION – NOVEMBER 2025****PAPER III**

Wednesday, November 12, 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 Essays:**

1. Write the key clinical features and diagnostic criteria of Obesity Hypoventilation Syndrome (OHS). Elaborate on the interplay between obesity, respiratory mechanics and ventilatory control which lead to the development of OHS. Describe in detail the pharmacological and non-pharmacological treatment strategies in OHS.

(5+5+5 = 15 marks)

2. Classify mycobacteria. Discuss the clinical and microbiological criteria for the diagnosis of Nontuberculous Mycobacterial (NTM) pulmonary disease. Enumerate the treatment regimens for Mycobacterium avium complex lung disease as recommended by the recent ATS/ERS guidelines.

(5+5+5 = 15 marks)

3. **Short Essays:**

- 3A. Management of patients with sputum smear positive pulmonary tuberculosis during pregnancy and lactation.
- 3B. Neurally adjusted ventilatory assist (NAVA) mode.
- 3C. Fall and rise phenomenon.
- 3D. Intrinsic PEEP.
- 3E. Shorter MDR/RR-tuberculosis regimen.
- 3F. Pleuropulmonary complications of acute pancreatitis and their management.
- 3G. High altitude and lung.
- 3H. Role of Line Probe Assay (LPA) in tuberculosis treatment.
- 3I. Nutritional support to TB patients in NTEP.
- 3J. SIADH.

(7 marks × 10 = 70 marks)



**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**MD (RESPIRATORY MEDICINE) DEGREE EXAMINATION – NOVEMBER 2025**

**PAPER IV**

Thursday, November 13, 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 Essays:**

1. Long-term oxygen therapy and supplemental oxygen during air travel. (15 marks)

2. Pre-operative assessment of Thoracic and extra-thoracic surgeries. (15 marks)

3. **Short Essays:**

3A. Explain various endobronchial interventions available for the management of severe COPD. Briefly describe the indications and the criteria for selecting these interventions.

3B. Define Vaping Induced Lung Injury (VALI). What are the radiological features, clinical manifestations and treatment of VALI.

3C. Bronchoscopic heat ablation techniques.

3D. Airway stenting.

3E. Measures of central tendency.

3F. Pulmonary Rehabilitation in COPD.

3G. Targeted therapy in lung malignancy.

3H. Gallium 67 citrate imaging in thorax.

3I. Body plethysmography.

3J. Ethics in bio-medical research.

(7 marks × 10 = 70 marks)

