



Tripura University

(A Central University)

Suryamaninagar

West Tripura

Syllabus for
Four Years Undergraduate Programme Subject:
Human Physiology
(As per NEP-2020)

4th Semester (Minor)

Revised as on October, 2025

Semester-IV
Paper- 4A (Theory)
HP- 401M

Full marks-60 (Internal assessment-24; End Sem. Exam. -36)

Unit 1: Respiratory System-I

1. Functional Anatomy and histology of the lung and airways. Alveolar cells and functions.
2. Physical principles of gas exchange, Partial pressure and composition of normal atmospheric gases in inspired, expired, alveolar air and blood.
3. Transport of blood gases: Oxygen transport-mechanism and carbon- di-oxide transport, mechanism.
4. Obstructive & Restrictive lung disease-Asthma, Emphysema. Asphyxia, Cyanosis. Dyspnea, -brief idea.

Unit-2: Respiratory System-II

1. Spirometry: Lung volumes and capacities.
2. Mechanism of respiration. Alveolar surface tension and surfactant.
3. Regulation of respiration: Respiratory centers, Chemoreceptors.
4. Neural control and chemical control of respiration.

Unit-3: High Altitude, Deep sea and Exercise Physiology

1. Respiratory abnormalities: High Altitude Sickness- Acclimatization. High altitude pulmonary edema (HAPO). Oxygen therapy.
2. Decompression sickness- caisson's disease -cause, effect. Hypoxia- Types.
3. Effect of exercise on respiratory system.
4. Maximal aerobic power (VO_2 max) definition and significance.
 O_2 debt- lactic and alactic.

Paper-4B (Practical)

HP-401M

Full marks-40 (Internal assessment-16; End Sem. Exam. -24)

CONTENTS:

1. Determination of breathing rate.
2. Measurement of lung volumes and capacities by spirometer or supplied curve.
3. Determination of obstructive or restrictive lung diseases from the supplied chart of FVC-FEV1 measurement.
4. Determination of Peak Expiratory Flow Rate and interpretation of result.
5. Determination of VO_2 max by Queens College step test.