SEM-3

VOT-301 **Applied Anatomy and Physiology**

Objective - To objectify the understanding of anatomy and physiology which help in the OT technique.

UNIT - 1 Respiratory Physiology- control or breathing, respiratory muscles- diaphragm, intercostals, lung volumes - dead space, vital capacity, FRC etc., pleural cavity - intrapleural pressure, pneumothorax, work of breathing - airway resistance, compliance, respiratory movements under anesthesia, tracheal tug - signs, hiccup.

Pulmonary Gas Exchange and Acid Base Status, pulmonary circulation, pulmonary edema, pulmonary hypertension, pulmonary function test transfer of gases - oxygen & Carbon dioxide, acid base status, definitions, acidosis types, Alkalosis types, buffers in the body. Oxygen: properties, storage, supply, hypoxia, Respiratory failure, type, clinical features, causes.

UNIT - 2 Cardiovascular Physiology: major vasculature, Coronary supply, innervation, conduction system, cardiac output - determinants, heart rate, preload, after load, coronary blood flow& myocardial oxygen supply, ECG- Arrhythmias cardiovascular response to anesthetic & surgical procedures, hypotension - causes, erects, management cardio pulmonary resuscitation, myocardial infarction.

UNIT - 3 Fluid and electrolytes: body fluids- composition, water, sodium and potassium balance, IV fluids- composition and administration, IV cannulation, blood transfusion- blood grouping, storage, administration.

Recommended Books:

- Anatomy and Physiology for Radiographers- C.A. Werrick
- Imaging Atlas of Human Anatomy – Jamie Weir et all (Mosby-Elsevier)
- An Atlas of Normal Radiographic Anatomy – Richard and Alwin.
- Ross and Wilson