Physiology, 2nd Year, English Module - SEMESTER 2 (February – June 2020)

Practical Sessions for Physiology of the Cardiovascular, Respiratory and Urinary Systems

Practical 1 (27-28.02.): Properties of the myocardium: excitability, automatism and rhythmicity, conductibility. The automatism of the heart - Stannius ligatures. Action potential and the law of periodic inexcitability of the heart. The influence of ions and mediators on heart activity. Effect of vagal stimulation on heart activity and vagal escape.

Practical 2 (05-06.03): ECG 1– basic concepts in electrocardiography

Practical 3 (12-13.03.): ECG 2 – ECG recording and interpretation of normal ECG

Practical 4 (19-20.03.): ECG3 – ECG overview, pathological aspects

Practical 5 (26-27.03): Cardiac cycle. Peripheral manifestations of cardiac activity: Heart sounds. The phonocardiogram recording and analysis.

Practical 6 (02-03.04.): Carotidogram recording and analysis. Jugulogram. Apexocardiogram. Polygram. The heart as a pump – BIOPAC recordings.

Practical 7 (09-10.04.): Measurement of blood pressure and its physiological changes. Sphygmogram. Capillary and venous circulation assessment.

Practical 8 (16-17.04.): Pulmonary volumes and pulmonary capacities (spirometry). Ventilatory flows, flow-volume loop

Practical 9 (29-30.04): Respiratory gases analysis in blood and expiratory air. Pulsoximetry. Clinical illustrations.

Practical 10 (07-08.05.): Test from Cardiovascular Physiology (lectures), followed by recovery for practical laboratories

Practical 11 (14-15.05.): Urinalysis test - physical and chemical properties of the urine, microscopic examination. Dilution-concentration test.

Practical 12 (21-22.05.): Renal clearance for urea, creatinine, cystatin C, inulin, para-amino-hippurate (PAH).

Practical 13 (28-29.05.): Practical laboratories recovery and review.

Practical exam (04-05.06.2020).