

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 1022]

OCTOBER 2022

Sub. Code: 2019

M.D. DEGREE EXAMINATION

BRANCH V – PHYSIOLOGY

**PAPER II – CIRCULATION, RESPIRATION, ENVIRONMENTAL
PHYSIOLOGY, COMPARATIVE PHYSIOLOGY AND EXCRETION**

Q.P. Code: 202019

Time : Three Hours

Maximum : 100 Marks

I. Essay Questions:

(2 x 15 = 30)

1. Describe the characteristic features and regulation of coronary blood flow. Add a note on cardio - biomarkers.
2. (a) Define Functional Residual Capacity (FRC).
(b) What is the significance of FRC?
(c) How can FRC be measured?

II. Short notes:

(10 x 5 = 50)

1. Work of breathing.
2. Septic shock.
3. Renal clearance tests.
4. Cerebral circulation.
5. Phases of ventricular action potential.
6. Artificial kidney.
7. Hyperbaric Oxygen therapy.
8. Reactive hyperemia.
9. Regulation of Glomerular filtration rate.
10. Periodic breathing.

III. Reasoning Out:

(4 x 5 = 20)

1. Physiological basis of heart sounds.
2. Reasons for the characteristic shape of Oxygen – Hemoglobin dissociation curve.
3. The amount of H⁺ secreted in the tubular fluid has a limit. Justify.
4. Physiological basis of Bainbridge reflex.
