[LB 122] **OCTOBER 2012** **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 : 3 hours **Maximum : 100 marks**

(180 Min)

Answer ALL questions in the same order.

	Pages (Max.)	Time (Max.)	Marks (Max.)
I. Essay:			
1. Discuss the regulation of extracellular fluid osmolarity and sodium concentration.	9	15	10
2. Discuss the mechanism of formation and functions of surfactant.	9	15	10
II. Short Questions:			
1. Discuss the law of Laplace as it relates to pulmonary and cardiovascular functions.	3	8	5
2. Discuss the effects of zero gravity.	3	8	5
3. Explain the role of urea in the formation of concentrated Urine.	3	8	5
4. Explain the rapid control of arterial blood pressure.	3	8	5
5. Discuss the renal control of acid base balance.	3	8	5
6. Explain the Oxygen – Hemoglobin Dissociation Curve.	3	8	5
7. Explain the volume pressure changes during cardiac cycle.	3	8	5
8. Describe the neural regulation of respiration.	3	8	5
III. Reasoning Out:			
1. Ventricular fibrillation is dangerous than atrial fibrillation.	5	10	5
2. Person on low sodium diet develops hypokalemia.	5	10	5
3. Bradycardia in athletes is physiological.	5	10	5
4. The blood volume remains almost exactly constant in spite of extreme changes in fluid intake.	5	10	5
IV. Very Short Answers:			
1. What is cardiac reserve?	1	4	2
2. What is oxygen toxicity?	1	4	2
3. What is maximal voluntary ventilation? Give the normal value.	1	4	2
4. What is Goldblatt hypertension?	1	4	2
5. What are the functions of juxta glomerular cells?	1	4	2
6. What is SIADH?	1	4	2
7. Wht is Cardiogenic shock?	1	4	2
8. What is active and reactive hyperemia?	1	4	2
9. Write about abnormal bladder.	1	4	2
10. Write any two causes for ectopic beats.	1	4	2

****