

MANIPAL UNIVERSITY**FIRST MBBS DEGREE EXAMINATION – MAY/ JUNE 2012****SUBJECT: PHYSIOLOGY– PAPER II (ESSAY)**

Saturday, June 02, 2012

Time: 10:20 – 13:00 Hrs.

Maximum Marks: 40

1. Define cardiac cycle. With a neat labeled graphical representation explain the pressure changes in the left ventricle, right ventricle and aorta of the human heart during different phases of a normal cardiac cycle.
(1+4+5 = 10 marks)
2. State the normal partial pressures of O₂ and CO₂ in the arterial and venous blood. Briefly explain the modes of transport of O₂ in blood. State two factors that would diminish O₂ transport in blood.
(1+4+1 = 6 marks)
3. Classify leucocytes. Briefly discuss the role of lymphocytes in immunity.
(2+4 = 6 marks)
- 4A. Discuss the functions of gastric juice.
(3 marks)
- 4B. Define glomerular filtration rate [GFR] and give its normal value. Briefly explain any two factors opposing filtration.
(1+2 = 3 marks)
- 4C. Define blood pressure and give its normal value. Explain any two mechanisms by which baroreceptors regulate blood pressure.
(1+2 = 3 marks)
- 4D. Enumerate four enzymes secreted from the pancreas. Discuss the role of pancreas in digestion of proteins.
(1+2 = 3 marks)
- 4E. Draw a neat labeled diagram of the normal ECG. State the normal intervals and enumerate the clinical uses of ECG.
(1+2 = 3 marks)
- 4F. Explain the role of hypothalamus in maintaining body temperature when exposed to a cold environment.
(3 marks)

