Reg. No.										

MANIPAL UNIVERSITY

MD (PHYSIOLOGY) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER I: GENERAL PHYSIOLOGY INCLUDING HISTORY OF PHYSIOLOGY

Wednesday, April 01, 2015

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Explain how the types of jaundice are differentiated based on clinical investigations.

(15 marks)

2. Describe the functions of sarcotubular systems in muscles.

(15 marks)

3. **Write briefly on:**

3A. Secondary active transport
3B. Contributions of E.H Starling
3C. Formation of myelin sheath
3D. Oxygen debt
3E. Possible physiological effects of yogic practices
3F. Exchange transfusion
3G. Spherocytes
3H. Antigen presentation
3I. G protein diseases
3J. Regulation of cell volume

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL UNIVERSITY

MD (PHYSIOLOGY) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER II: SYSTEMIC PHYSIOLOGY (SYSTEM PROVIDING TRANSPORT, NUTRITION AND ENERGY) INCLUDING COMPARATIVE PHYSIOLOGY

Thursday, April 02, 2015

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Discuss regulation of stroke volume of heart.

(15 marks)

2. Discuss mechanism of ventilation and explain ventilation-perfusion ratio.

(15 marks)

3. **Write briefly on:**

3A. Malabsorption syndrome
3B. Peptic ulcer
3C. Role of pulmonary surfactant
3D. Diffusion capacity of lung
3E. Enteric nervous system
3F. Voluntary micturition
3G. Glomerulotubular balance
3H. Special features of renal circulation
3I. *Poissuille-Hagen* formula
3J. Pacemaker potential

(7 marks ×10 = 70 marks)

Reg. No.										

MANIPAL UNIVERSITY

MD (PHYSIOLOGY) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER III: SYSTEMIC PHYSIOLOGY (SYSTEM CONCERNED WITH PROCREATION, REGULATION AND NEURAL CONTROL)

Saturday, April 04, 2015

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Essay:**

1. Discuss Parkinson disease.

(15 marks)

2. Discuss role of hormones in regulation of intermediary metabolisms.

(15 marks)

3. **Write briefly on:**

3A. Stimulus intensity perception by sensory system
3B. Conductive deafness
3C. Dark adaptation
3D. Thalamic syndrome
3E. Paradoxical sleep
3F. Conn's syndrome
3G. IGF-1
3H. Placental hormones
3I. Male pseudohermaphroditism
3J. GnRH

(7 marks × 10 = 70 marks)

Reg. No.										

MANIPAL UNIVERSITY

MD (PHYSIOLOGY) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER IV: APPLIED PHYSIOLOGY INCLUDING RECENT ADVANCES

Monday, April 06, 2015

Time: 14:00 – 17:00 Hrs. Max. Marks: 100

- **Answer ALL the questions.**
- **Draw a diagrams wherever necessary.**

- **Long Essay:**

1. Discuss pathophysiology of peptic ulcer and explain the physiological basis of its treatment. (15 marks)

2. Discuss the signs and symptoms of hypovolemic shock and explain the physiological basis of these signs, symptoms and its treatment. (15 marks)

3. **Write short notes on**:

3A. Discuss the importance of cross matching before blood transfusion in clinical medicine.
3B. Role of leptin in obesity
3C. Physiological basis of Vaccination
3D. Free water clearance
3E. Student 't' test
3F. Explain the molecular basis of memory.
3G. Discuss how the concept of renal clearance can be used to measure glomerular filtration rate and renal blood flow.
3H. Fetal circulation and its changes after birth
3I. Discuss the current concept of endothelium derived vasoactive factors.
3J. Discuss the endogenous pain relief system.

(7 marks × 10 = 70 marks)