Reg. No.									

MANIPAL UNIVERSITY

FIRST BDS DEGREE EXAMINATION – JUNE 2010

SUBJECT: GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY (ESSAY)
(NEW REGULATION)

Saturday, June 19, 2010

Time: 14:15 – 17:00 Hrs. Maximum Marks: 60

✍ **Answer Section "A" and Section "B" in two separate answer books.**

SECTION – A : HUMAN PHYSIOLOGY: 30 MARKS

1. Define GFR and give its normal value. Explain the factors affecting GFR. Add a note on Inulin clearance.

(2+6+2 = 10 marks)

2. **Write short notes:**

2A. Define Landsteiner's law. Name different blood group systems. Add a note on Rh blood group.

(1+1+2 = 4 marks)

2B. Give the normal blood glucose level. Explain the actions of insulin in maintaining blood glucose level.

(1+3 = 4 marks)

2C. Explain the Chemical Regulation of respiration.

(4 marks)

2D. Differentiate UMN lesions from LMN lesions. Add a note on Bell's Palsy.

(3+1 = 4 marks)

2E. Name the gastro-intestinal hormones and explain their functions.

(1+3 = 4 marks)

SECTION – B : BIOCHEMISTRY: 30 MARKS

3A. Discuss Vitamin D under the following headings:
- i) Synthesis
- ii) Activation
- iii) Functions and deficiency symptoms

3B. Explain the Beta-oxidation of fatty acids.

((½+1½+3)+5 = 10 marks)

4A. Write a note on competitive inhibition of enzymes with two examples of clinical application.
4B. Describe protein digestion in the gastrointestinal tract.
4C. Enumerate the salient features of Kwashiorkor and Marasmus.
4D. What are lipoproteins? Classify them giving their functions.

(3×4 = 12 marks)

5. **Write briefly on:**

5A. Structure of starch.
5B. Sources, RDA, function and deficiency symptoms of thiamin.
5C. Significance of HMP shunt pathway.
5D. Active transport system.

(2×4 = 8 marks)

Reg. No.									

MANIPAL UNIVERSITY

FIRST BDS DEGREE EXAMINATION – NOVEMBER 2010

SUBJECT: GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY (ESSAY)
(NEW REGULATION)

Monday, November 29, 2010

Time: 14:15 – 17:00 Hrs. Maximum Marks: 60

✍ **Answer Section "A" and Section "B" in two separate answer books.**

SECTION – A : HUMAN PHYSIOLOGY: 30 MARKS

1. Name the various plasma proteins. Give the normal concentration of each. Describe the functions of each plasma protein.

(2+2+6 = 10 marks)

2A. Explain the chemical regulation of respiration.

(4 marks)

2B. Explain the role of parathyroid hormone in the regulation of blood calcium level. Add a note on tetany.

(3+1 = 4 marks)

2C. Define GFR and give its normal value. Explain the method used for its measurement. Describe the factors regulating GFR.

(1+1+2 = 4 marks)

2D. Name the contents of middle ear. Explain the functions of middle ear.

(1+3 = 4 marks)

2E. Explain spermatogenesis and mention the factors affecting it.

(2+2 = 4 marks)

SECTION – B : BIOCHEMISTRY: 30 MARKS

3A. Describe the beta-oxidation of fatty acids under the following headings:
- i) Activation of fatty acids and transport across the mitochondrial membrane.
- ii) Steps of beta-oxidation proper.

(2+3 = 5 marks)

3B. What is competitive inhibition? Give two examples to indicate its importance in clinical medicine.

(2+3 = 5 marks)

4A. Write the key reactions of gluconeogenesis.
4B. Discuss the structure of immunoglobulins with suitable labeled diagram.
4C. Discuss the synthesis and functions of calcitriol.
4D. Describe the double helical structure of DNA.

(3×4 = 12 marks)

5A. Write a note on function of proteins with examples.
5B. Give one complete reaction for each of the coenzyme derived from
- i) Riboflavin
- ii) Pyridoxine

5C. Discuss the causes and features of iron deficiency.
5D. Discuss the similarity and difference between marasmus and kwashiorkor.

(2×4 = 8 marks)