Reg. No.										

MANIPAL UNIVERSITY

FIRST BDS DEGREE EXAMINATION – NOVEMBER 2013

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

Saturday, November 23, 2013

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

- **Answer Section "A" and Section "B" in two separate answer books.**
- **Answer the following questions.**

SECTION – A : HUMAN PHYSIOLOGY: 30 MARKS

Essay:

1. Define cardiac output and cardiac index giving normal values. Describe the regulation of cardiac output. Giving reasons explain two conditions where cardiac output is increased.

(2+6+2 = 10 marks)

2. Short Answer type:

2A. Define reflex. Draw a labelled diagram of reflex arc. Name any two reflexes.

(1+2+1 = 4 marks)

2B. What is anemia? Enumerate the various types of anemia and explain how any one type is caused.

(4 marks)

2C. Give the normal plasma ionic calcium level. Explain the actions of parathormone on ionic calcium level.

(1+3 = 4 marks)

2D. List four functions of saliva. Briefly explain the regulation of salivary secretion.

(1+3 = 4 marks)

2E. Define GFR. Give the normal value. List the factors affecting GFR.

(1+1+2 = 4 marks)

SECTION – B : BIOCHEMISTRY: 30 MARKS

3A. Write the reactions of citric acid cycle. Add a note on its energetic.

3B. Explain the reactions of ketone body formation. How are they utilized in the body?

(6+4 = 10 marks)

4. Explain the following:

4A. Differences between competitive and noncompetitive inhibition. Give two examples for competitive inhibition.

4B. Classification of carbohydrates with examples.

4C. Electron transport chain.

4D. Formation and excretion of bilirubin in the body.

(3×4 = 12 marks)

5. Write briefly on:

5A. Vitamin A deficiency manifestations.

5B. Salient features of Watson-Crick model of DNA

5C. Nitrogen balance

5D. Fluorosis.

(2×4 = 8 marks)