

Question Paper

Exam Date & Time: 09-02-2022 (02:15 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST BDS DEGREE EXAMINATION - FEBRUARY 2022

SUBJECT: GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY
(CASUALS - 2021)

All questions are compulsory. Write brief, clear, relevant and legible answers.
Illustrate your answers with diagrams and flow-charts wherever appropriate.

Marks: 60

Duration: 165 mins.

SECTION A: HUMAN PHYSIOLOGY

Answer all the questions.

Essay:

- 1A) Discuss the various factors regulating Erythropoiesis. Add a note on functions of RBCs.
(4+1 = 5 marks)
- 1B) Define and classify synapse. List the events that occur during transmission of an impulse across a synapse. (2+3 = 5 marks)

2. **Short Notes:**

- 2A) Give the normal value of heart rate. Discuss the factors affecting heart rate. (1+3 = 4 marks)
- 2B) Explain the role of parathyroid hormone in calcium homeostasis. (4)
- 2C) Describe the process of gas exchange across the lung alveolar respiratory membrane. (4)
- 2D) Define GFR. Explain the mechanism of autoregulation of renal blood flow. (1+3 = 4 marks)
- 2E) Draw and describe the visual pathway. Mention the effect of lesion at various locations along visual pathway. (3+1 = 4 marks)

SECTION B: BIOCHEMISTRY

Answer all the questions.

Essay questions:

- 3A) Write the reactions of urea cycle. (5)
- 3B) Describe the key reactions of gluconeogenesis. Add a note on Cori's cycle. (5)

4. **Write briefly on:**

- 4A) Functions of Vitamin D. (3)
- 4B) Causes and compensatory mechanism of metabolic acidosis. (3)
- 4C) Rapaport Leubering cycle. (3)
- 4D) Protein energy malnutrition. (3)

5. **Answer the following:**

- 5A) Name the biologically important products formed from cholesterol. (2)
- 5B) List the important compounds formed from glycine. (2)
- 5C) What are high energy compounds? Give TWO examples. (2)
- 5D) Explain transamination with the help of an example. (2)

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