

Question Paper

Exam Date & Time: 13-Oct-2021 (02:15 PM - 05:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST BDS DEGREE EXAMINATION - OCTOBER 2021
SUBJECT: GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY

Marks: 60

Duration: 165 mins.

PART - A: GENERAL HUMAN PHYSIOLOGY (30 MARKS)

Answer all the questions.

Essay:

- 1A) Define Blood pressure. Explain the baroreceptor mechanism of regulation of blood pressure. (1+4 = 5 marks)
- 1B) Describe the changes seen in the ovary during the menstrual cycle. (5)

2. Short notes:

- 2A) Draw a labelled diagram of a neuromuscular junction. Explain the steps involved in neuromuscular transmission. (2+2 = 4 marks) (4)
- 2B) Explain the role of the hormones cholecystokinin and secretin in regulating the secretion of bile and pancreatic juices. (2+2 = 4 marks) (4)
- 2C) Classify white blood cells. Explain the role of neutrophils in immunity. (1+3 = 4 marks) (4)
- 2D) Describe the dorsal column pathway with the help of a labelled diagram. Mention the different sensations carried by this pathway. (3+1 = 4 marks) (4)
- 2E) Outline the molecular mechanism of skeletal muscle contraction. (4)

PART - B: BIOCHEMISTRY (30 MARKS)

Answer all the questions.

Essay:

- 3A) Write the reactions of anaerobic glycolysis. (5)
- 3B) Give an account of functions of calcium. Add a note on the role of vitamin D on calcium homeostasis. (2+3 = 5 marks) (5)

4. Write short answers on:

- 4A) Explain FOUR organizational levels of protein structure. (3)
- 4B) With the help of a labeled diagram explain the structure of DNA. (3)

- 4C) Sketch the components of electron transport chain in the sequential order indicating ONE inhibitor for each complex. (3)
- 4D) Name TWO steroid hormones. Write their mechanism of action. (3)

5. Write short notes on:

- 5A) Outline the structure of starch. (2)
- 5B) Classify lipids with one example for each class. (2)
- 5C) Describe the salient features of competitive type of enzyme inhibition with ONE clinical application. (2)
- 5D) Write the causes and features of pre-hepatic type of jaundice. (2)

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