

GANPAT UNIVERSITY**B. TECH SEM- II (BME) REGULAR EXAMINATION- APRIL-JUNE 2017****2BM101: Basic Biology****TIME: 3 HRS****TOTAL MARKS: 60**

Instructions: (1) This Question paper has two sections. Attempt each section in separate answer book.
(2) Figures on right indicate marks.
(3) Be precise and to the point in answering the descriptive questions.

SECTION: I

- Q.1** [10]
(a) Define the term "tissue". Write the classification of animal tissues and their function. (6)

- (b) Classify the types of compounds with its examples. (4)

OR

- Q.1** [10]
(a) Enlist and explain various mechanisms for controlling of body temperature. (5)
(b) Explain the structure and functions of Mitochondria with necessary diagram. (5)

- Q.2** [10]
(a) Differentiate Endocytosis and Exocytosis. (3)
(b) What is the function of bone, cartilage, ligament and tendon? (3)
(c) What is body fluid? Give the significance of body fluid. (4)

OR

- Q.2** [10]
(a) Enlist and explain the properties of water. (3)
(b) What are the different types of muscles? (3)
(c) Diagrammatically shows the difference between pinocytosis and phagocytosis process. (4)

- Q.3** [10]
(a) Answer the following questions (any five): (5)

- 1) On average, what is the lifespan of a red blood cell?
- 2) What are the functions of areolar tissue?
- 3) Why lysosomes are called digestive bags or suicide bags?
- 4) Microfilament diameter is _____.
- 5) Microtrabeculae diameter is _____.
- 6) How does the body know that the coagulation process must begin?

- (b) Discuss the main components of blood with its structure and functions. (5)

SECTION: II

- Q.4 [10]
(a) What is meiosis? Explain the clinical significance of Cell cycle. (4)
(b) Explain various phases of mitosis process with its suitable diagram. (6)

OR

- Q.4 [10]
(a) Write a short note on Acid-base balance. (5)
(b) What is protein? Enlist and explain the structure and functions of proteins. (5)

- Q.5 [10]
(a) Describe transport system across the cell membrane in detail. (6)
(b) Give the difference between DNA and RNA. (4)

OR

- Q.5 [10]
(a) What is Neuroglia? Enlist and explain the types of Neuroglial cell with its structure and function. (5)
(b) Enlist and explain the main types of Nucleic acids with its chemical structure and state its functions. (5)

- Q.6 [10]
(a) Draw a labeled diagram of a neuron. (2)
(b) Give three features of cardiac muscles. (3)
(c) **Define the following Terms (any five):** (5)
1) Glycocalyx
2) Ionization Energy
3) vasodilation
4) Surface tension
5) Osmosis
6) Adhesion

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