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MANIPAL INSTITUTE OF TECHNOLOGY

(A constituent unit of MAHE, Manipal 576104)

1st SEMESTER M.Tech. (BME) DEGREE END SEM EXAMINATIONS, FEB/MAR 2021.

**SUBJECT: HUMAN ANATOMY AND PHYSIOLOGY (BME 5153)
(REVISED CREDIT SYSTEM)**

Monday, 22nd February 2021: 2 PM to 5 PM

TIME: 3 HOURS

MAX. MARKS: 50

Instructions to Candidates:

- 1. Answer all questions from PART A and PART B. Use separate answer books for PART A and PART B.**
- 2. Draw labeled diagram wherever necessary**

PART-A. HUMAN ANATOMY. (Max. Marks: 25)

- (i) List the three differences between sympathetic and parasympathetic nervous system. **3+2**
 - (ii) Write a note on cerebrospinal fluid (CSF) circulation.
- Name the different types of bones with one example for each. **5**
- Name the different parts of male reproductive system. Add a note on testis. **5**
- Describe the anatomy of left lung. **5**
- Describe stomach under following headings. **2+3**
 - (i) External features (surfaces, borders, orifices).
 - (ii) Parts.

PART-B. HUMAN PHYSIOLOGY (Max. Marks: 25)

- (i) With the help of a diagram, explain the cross bridge cycling in skeletal muscle. **3+2**
 - (ii) Enumerate the factors affecting erythropoiesis.
- Draw neat labelled diagram of neuron and explain the conduction of action potential in myelinated nerve fiber. **5**

- 3) (i) Draw neat labelled diagram of Electro Cardio Gram (ECG) and mention causes of each wave. **3+2**
- (ii) Define accommodation of eye. Explain the cause & correction of myopia.
- 4) With the help of graph, explain the mechanism of inspiration & expiration. **5**
- 5) (i) Describe the counter current mechanism in kidneys. **3+2**
- (ii) List out the functions of hypothalamus.