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MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

1st SEMESTER M.Tech. (BME) DEGREE END SEM. EXAMINATIONS, NOV/ DEC, 2016.

**SUBJECT: ANATOMY AND PHYSIOLOGY (BME 5101)
(REVISED CREDIT SYSTEM)**

Thursday, 24th November 2016: 9 AM to 12 NOON

TIME: 3 HOURS

MAX. MARKS: 100

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. ANATOMY. (Max. Marks: 50)

- 1) Name all the cranial nerves with one function for each. Add a note on brain stem. 5+5**
- 2) Enumerate the parts of the male reproductive system. Describe the anatomy of the testis. 3+7**
- 3) Write a note on the following 5+5**
 - (i) Typical synovial joint**
 - (ii) Cartilage**
- 4) Describe the anatomy of the following. 5+5**
 - (i) Liver**
 - (ii) Urinary Bladder**
- 5) Describe the anatomy of the following. 5+5**
 - (i) Thyroid gland**
 - (ii) Blood supply of heart.**

PART-B. PHYSIOLOGY (Max. Marks: 50)

- 1a) Draw a labelled diagram of Neuromuscular Junction and mention the events in Neuromuscular transmission. 3+4**
- 1b) Write briefly on 'Motor Unit'. 3**

- 2a)** Name four centres involved in Neural regulation of respiration and how do they bring about inspiration and expiration. **3+4**
- 2b)** What is hypoxia? What are the four types and give examples for each. **3**
- 3a)** Explain the role of baroreceptors in regulation of blood pressure. **2+5**
- 3b)** Write briefly on lead system used for recording ECG. **3**
- 4a)** What are the contents of 'Middle Ear'. Discuss in detail their functions. **2+5**
- 4b)** Write briefly on 'Colour Vision'. **3**
- 5a)** What are the contents of Basal Ganglia? What are its functions? Add a note on 'Parkinsonism' **2+2+3**
- 5b)** What are the divisions of autonomic Nervous system and mention the neurotransmitter used. **3**