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MANIPAL INSTITUTE OF TECHNOLOGY
(A Constituent Institute of – Manipal University)
Manipal – 576 104



1st SEMESTER M.Tech. (BME) DEGREE END SEM. EXAMINATIONS, NOV/ DEC, 2015.

SUBJECT: ANATOMY AND PHYSIOLOGY (BME 501)
(REVISED CREDIT SYSTEM)

Tuesday, 1st December 2015: 2 to 5 PM.

TIME: 3 HOURS

MAX. MARKS: 100

Instructions to Candidates:

- 1. Answer any FIVE full questions from part A and FIVE full questions from 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. Write a note on lateral ventricle. **5+5**
- 2) Enumerate the parts of gastrointestinal tract. Explain the stomach. **3+7**
- 3) Describe the anatomy of the following **6+4**
 - (i) Thyroid gland
 - (ii) Gall bladder
- 4) Write short note on **5+5**
 - (i) Pleura
 - (ii) Right Atrium.
- 5) Enumerate the lymphoid organs in the body. Write a note lymph node **3+7**
- 6) Enumerate the parts of urinary system. Describe the urinary bladder **2+8**

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

- 1a) Draw a neat labeled diagram of neuromuscular junction and enumerate the events occurring in neuromuscular transmission. **7**
- 1b) Add a note on neuromuscular blockers. **3**

- 2a)** Explain neural regulation of respiration. **7**
- 2b)** Define **3**
 (i) Cyanosis (ii) Hypoxia (iii) Hypercapnea
- 3a)** Name the errors of refraction and how each is corrected. **7**
- 3b)** Write a short note on eye as a camera. **3**
- 4a)** Name any four ascending tracts and draw a neat labeled diagram of pain pathway. **2+5**
- 4b)** What is referred pain? **3**
- 5a)** Explain the glucose reabsorption and Na⁺ reabsorption in the renal tubular fluid. **7**
- 5b)** List the functions of skin. **3**
- 6a)** Enumerate any SIX properties of cardiac muscle. Explain any two of them. **3+4**
- 6b)** Mention any FOUR differences between I and II heart sounds. How can you record the heart sounds. **2+1**