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



III SEMESTER B.Tech. (BME) DEGREE MAKE UP EXAMINATIONS, DEC/JAN- 2015-16

SUBJECT: ANATOMY AND PHYSIOLOGY (BME 2105)

Thursday, 7th January 2016, 9 am to 12 noon

TIME: 3 HOURS

MAX. MARKS: 100

Instructions to Candidates:

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

PART-A ANATOMY (Max.Marks: 50)

- 1) Describe the arterial supply of 5+5
(i) Heart. (ii) Long bone.
- 2a) Classify the nervous system and name its components. 2
- 2b) Write a note on autonomic nervous system. 8
- 3) Describe the anatomy of the following 5+5
(i) Testis. (ii) Uterine Tube.
- 4) Describe the left kidney under the following headings. 2+4+4
(i) Position. (ii) External features. (iii) Relations.
- 5) Write a note on 5+5
(i) Structure of skin. (ii) Pancreas.

PART-B PHYSIOLOGY (Max. Marks: 50)

- 1a)** What are the events occurring in the excitation contraction coupling. Explain with a diagram. **4+3**
- 1b)** Briefly explain a motor unit. **3**
- 2a)** What are the different forms in which O₂ is transported in the blood. Draw a neat labeled diagram of O₂-Hb dissociation curve and mention factors which shift the curve to right. **1+3+3**
- 2b)** Define
(i) Vital capacity. (ii) Tidal capacity. **3**
- 3a)** Name the contents of the middle ear and what are its function. **3+4**
- 3b)** Draw a diagram of organ of corti. Show the location of the receptors for hearing. **3**
- 4a)** Explain the origin, course, termination and functions of dorsal column tracts. **7**
- 4b)** Mention two ascending tracts. **3**
- 5a)** Define blood pressure and give the normal value. Explain the role of baroreceptors in the regulation of blood pressure. **1+1+5**
- 5b)** List the functions of kidney. **3**