# MANIPAL UNIVERSITY

## FIRST YEAR B.Sc. M.L.T./ B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T./ B.Sc. C.V.T. DEGREE EXAMINATION – JUNE 2010

### SUBJECT: ANATOMY

Monday, June 07, 2010

Time: 10.00-11.30 Hrs.                                    Max. Marks: 40

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1.  Name the parts of respiratory system. Briefly explain the right lung.

(2+6 = 8 marks)

2.  Describe the right atrium in detail.

(8 marks)

**3.  Write briefly on:**

3A.  Large intestine

3B.  Kidney

3C.  CSF circulation

3D.  Epithelium

3E.  Synovial joints

3F.  Spinal cord

3G.  Pleura

3H.  Thyroid gland

(3×8 = 24 marks)

Reg. No.

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## FIRST YEAR B.P.T./B.O.T./B.Sc.M.L.T./B.Sc.N.M.T/B.Sc.R.T. /B.Sc.M.R.T.
## DEGREE EXAMINATION – JUNE 2010
### SUBJECT: PHYSIOLOGY
Wednesday, June 09, 2010

Time: 10.00-13.00 Hours.                                           Max. Marks: 80

✍ **Answer all questions.**

1.  Draw a labelled diagram of neuromuscular junction. Write the sequence of events of neuromuscular transmission

(10 marks)

2.  Describe the actions of thyroid hormones. Add a note on Cretinism

(10 marks)

3.  Write short notes on the following:

3A. Facilitated diffusion.

3B. ABO system of blood grouping.

3C. Stages of deglutition.

3D. Functions of cerebrospinal fluid.

3E. Baroreceptor role in regulation of blood pressure.

3F. Oxygen transport.

3G. Functions of kidney.

3H. Functions of placenta.

(5×8 = 40 marks)

4.  Write brief answers to the following questions:

4A. List the functions of rods and cones.

4B. Give the cause for each of the following conditions:
    i)    Cushing's syndrome        ii)    Diabetes mellitus

4C. Mention two actions of estrogen.

4D. What is neutrophilia? Give one condition for it.

4E. Mention any two sensations carried by the dorsal column tract.

4F. Define hypoxia. Give one cause for it.

4G. Define blood pressure. Give its normal value.

4H. Enumerate the functions of liver.

4I. Define glomerular filtration rate. Give its normal value.

4J. Name the muscle proteins that have a role in contraction.

(2×10 = 20 marks)

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### DEGREE EXAMINATION – JUNE 2010

### SUBJECT: BIOCHEMISTRY
#### (NEW REGULATIONS)

Friday, June 11, 2010

Time: 10.00-11.30 Hours                                                                 Max. Marks: 40

1.  With the help of graphs, explain the effect of competitive and non competitive inhibitors on enzyme activity.

(4 marks)

2.  Classify lipids giving one example for each class.

(3 marks)

3.  Tabulate THREE similarities and THREE differences between starch and glycogen.

(3 marks)

4.  With the help of schematic diagram, explain the biochemical changes taking place in a patient with lactose intolerance after the intake of milk.

(4 marks)

5.  Explain with reactions, the process of glycolysis.

(7 marks)

6.  Write short notes on the importance of dietary fibers.

(3 marks)

7.  Explain the process of protein digestion in the stomach.

(3 marks)

8.  List four similarities and four differences between marasmus and kwashiorkor.

(4 marks)

9.  Write the reactions of the urea cycle.

(5 marks)

10. Describe the Watson and Crick model of DNA.

(4 marks)

# MANIPAL UNIVERSITY
## FIRST YEAR B.Sc. M.L.T. DEGREE EXAMINATION – JUNE 2010
### SUBJECT: BIOMEDICAL INSTRUMENTATION TECHNIQUES

Monday, June 14, 2010

Time: 10.00-13.00 Hrs.                                        Max. Marks: 80

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✍  **Answer all questions. Draw diagrams if necessary.**

1.  What are the different types of centrifuges? Discuss about the components of a centrifuge. What are the important tips to be kept in mind in the maintenance of a centrifuge?

(10 marks)

2.  What are the major sub systems in computer tomography systems? Explain the working of a CT scanner with the help of block diagram.

(10 marks)

3.  Elaborate on Colourimetry.

(10 marks)

4.  **Write detailed notes on:**

4A.  Chromatography

4B.  Flame photometer

4C.  Common balance

4D.  FNAC

4E.  EMG

4F.  Treadmill test

4G.  Autoclave

(5×7 = 35 marks)

5.  **Write short notes on:**

5A.  Laser applications in medicine

5B.  Blood gas analyzer

5C.  Dialysers

5D.  Beer Lambert law

5E.  RIA

(3×5 = 15 marks)