

## MANIPAL UNIVERSITY

**FIRST YEAR B.Sc. R.T./B.Sc. M.R.T./B.Sc. C.V.T.**  
**DEGREE EXAMINATION – JUNE 2017****SUBJECT: ANATOMY**  
(2015 SCHEME/2011 SCHEME/2015 SCHEME)

Thursday, June 15, 2017

Time: 10.00-11.30 Hrs.

Max. Marks: 40

1. Name the parts of gastrointestinal tract. List the difference between small intestine and large intestine.

(5+5 = 10 marks)

2. **Write short notes on the following:**

- 2A. Neuron  
2B. Larynx  
2C. Gall bladder  
2D. Uterus  
2E. Eyeball  
2F. Fourth ventricle

(5 marks × 6 = 30 marks)



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## MANIPAL UNIVERSITY

**FIRST YEAR BOT/B.Sc. MRT/B.Sc. CVT/B.Sc. RT DEGREE EXAMINATION – JUNE 2017**

**SUBJECT: PHYSIOLOGY**

**(2015 SCHEME (BOT 106)/2011 SCHEME/2015 SCHEME (PAPER II)/2015 & 2010 SCHEME)**

Saturday, June 17, 2017

Time: 10.00-11.30 Hours.

Max. Marks: 40

**Answer ALL questions.**

**Draw diagrams and flow charts wherever appropriate.**

**1. Essay Questions:**

- 1A. Mention any three actions of growth hormone. Describe the regulation of secretion of growth hormone in the form of a flow chart.
- 1B. Draw a labeled diagram of the visual pathway and explain the effect of lesion of left optic nerve.
- 1C. Classify white blood cells. Mention one function of each.
- 1D. Describe the chemical regulation of respiration.

(5 marks × 4 = 20 marks)

**2. Short answer questions:**

- 2A. List two differences between active transport and passive transport mechanisms.
- 2B. Draw a labeled diagram of a nerve action potential.
- 2C. Mention any two functions of cerebrospinal fluid.
- 2D. List any four properties of cardiac muscle.
- 2E. Define cardiac output and mention its normal value in adults at rest.
- 2F. Name the different types of hypoxia.
- 2G. Mention any two functions of gall bladder.
- 2H. Mention any two actions of estrogen.
- 2I. Define GFR and give its normal value.
- 2J. List two functions of basal ganglia.

(2 marks × 10 = 20 marks)



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## MANIPAL UNIVERSITY

### FIRST YEAR BPT/BOT/B.Sc. RT/B.Sc. CVT/ B.Sc. RRT & DT DEGREE EXAMINATION – JUNE 2017

#### SUBJECT: BIOCHEMISTRY

(NR/2015 & 2011 SCHEME/2015 & 2010 SCHEME/2015 SCHEME/BDT 103)

Tuesday, June 20, 2017

Time: 10.00-11.30 Hours

Max. Marks: 40

✍ Answer ALL the questions.

✍ Draw diagrams and flow charts wherever appropriate.

1. Explain anaerobic glycolysis under the following headings:

1A. Site and subcellular site

1B. Reactions

(1+7 = 8 marks)

2. Write the steps of urea cycle in detail.

(6 marks)

3. Write short notes on:

3A. Homopolysaccharides

3B. Classification of compound lipids with one example each

3C. Structure of DNA

3D. Basal metabolic rate

(4 marks × 4 = 16 marks)

4. Answer the following:

4A. Define the term 'buffer'. Write the Henderson-Hasselbalch equation.

4B. Write the normal serum calcium level. Name the hormones regulating it.

4C. Mention four biologically important compounds derived from glycine.

4D. Write the coenzyme form of thiamine and one reaction where it is involved.

4E. Give the clinical importance of creatine kinase and alkaline phosphatase.

(2 marks × 5 = 10 marks)

