

Reg. No.

## 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

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)



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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. R.T. DEGREE EXAMINATION – JUNE 2010

SUBJECT: PHARMACOLOGY

Tuesday, June 15, 2010

Time: 10.00-13.00 Hrs.

Max. Marks: 80

- 1A. Classify antihypertensives based on mechanism of action.  
1B. Explain the basis for the use of nitrates in angina.  
(4+2 = 6 marks)
- 2A. Explain Two factors influencing induction of anesthesia.  
2B. Explain why morphine is contraindicated in head injury.  
(4+2 = 6 marks)
- 3A. Explain the mechanism of action of theophylline in bronchial asthma.  
3B. List four adverse effects of theophylline and explain the interaction between erythromycin and theophylline.  
3C. Explain the effects of ipratropium bromide on respiratory system.  
(2+4+2 = 8 marks)
- 4A. Calculate the amount of ingredients required to prepare 600ml of 5% dextrose in normal saline.  
4B. Explain four methods of prolonging drug action with examples.  
(4+6 = 10 marks)
- 5A. Classify penicillins with examples.  
5B. Mention two cephalosporins and write two uses for any one.  
(4+2 = 6 marks)
6. Explain the following terms with an example.  
6A. Dissociative anesthesia  
6B. Chemoprophylaxis  
6C. Antitussive  
6D. Drug tolerance  
6E. Thrombolytic  
(2×5 = 10 marks)
7. Mention two uses and two adverse effects of  
7A. Atropine  
7B. Frusemide  
7C. Aspirin  
7D. Gentamicin  
7E. Hydrocortisone  
(2×5 = 10 marks)
8. Giving an indication, explain the basis for the use of the following drugs.  
8A. Digoxin  
8B. Adrenaline  
8C. Salbutamol  
8D. Clavulanic acid with amoxicillin.  
(3×4 = 12 marks)
9. Write briefly on:  
9A. Peripherally acting skeletal muscle relaxants.  
9B. H<sub>1</sub> blockers  
9C. Sources of drug information.  
(4×3 = 12 marks)



## MANIPAL UNIVERSITY

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2010

SUBJECT: RESPIRATORY THERAPY SCIENCE – I

Thursday, June 17, 2010

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Draw diagrams wherever necessary.**

✍ **Answer to the question and avoid padding of answers.**

1. What are the indications of humidification therapy? Explain about the physical principles that would improve the humidification? What are the advantages of heated humidifiers over HME? Enumerate different types of humidifiers?

(4+4+4+4 = 16 marks)

2. Explain with the help of a diagram oxygen cascade for a normal patient breathing in normal condition. Draw the oxygen cascade for a patient inhaling 60% oxygen at normal atmospheric conditions.

(8+8 = 16 marks)

**3. Answer the following:**

- 3A. How does an ultrasonic nebulizer work? What are the advantages and disadvantages of an ultrasonic nebulizer?

(4+4 = 8 marks)

- 3B. Explain with the help of a diagram a membrane oxygen concentrator.

(8 marks)

- 3C. What is the requirement of the room in which you store gas cylinders? What is the gas cylinder colour coding for oxygen, air, carbon dioxide and helium?

(6+2 = 8 marks)

- 3D. Enumerate the low flow and high flow oxygen therapy devices.

(8 marks)

- 3E. Pharyngeal airways.

(8 marks)

- 3F. Explain with diagram the parts of a normal single breath capnogram.

(8 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2010****SUBJECT: PATIENT CONTACT TECHNIQUES**

Saturday, June 19, 2010

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ **Draw diagrams wherever necessary.**

✍ **Answer to the question and avoid padding of answers.**

1. Why is it important to know the topographic landmarks of the chest? Explain with diagram the imaginary lines and the thoracic cage landmarks. Write briefly about the fissures of the lung.

(2+12+2 = 16 marks)

2. What are the stages of patient clinician interaction? Write briefly about the use of space. What is the role of territoriality, confidentiality and expressing genuine concern important in professionalism?

(6+4+6 = 16 marks)

**3. Write short notes on:**

3A. Glasgow Coma Scale.

3B. Common symptoms of pulmonary disorders.

3C. Normal value of complete blood count.

3D. Steps of basic life support in neonates.

3E. Explain the phases of Korotkoff's sound during measurement of blood pressure using a sphygmomanometer.

3F. Characteristic of sputum in bronchiectasis, pulmonary oedema, pseudomonas infection and klebsiella infection.

(8×6 = 48 marks)

