

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.**  
**DEGREE EXAMINATION – JUNE 2008**

**SUBJECT: ANATOMY**  
Monday, June 09, 2008

Time: 1½ Hrs.

Max. Marks: 40

✍ **Answer all the questions.**

✍ **Draw neat labeled diagram wherever necessary.**

1. Classify the joints giving examples to each variety. Discuss the structure of a typical synovial joint.

(8 marks)

2. Name the fissures and lobes of the right lung. Name the structures related to the mediastinal surface of right lung.

(2+6 = 8 marks)

3. Answer briefly on:

3A. Multipolar neuron

3B. Trachea

3C. Interior of the right ventricle

3D. Stomach

3E. Spleen

3F. Uterus

3G. Functional areas of cerebrum

3H. Right kidney

(3×8 = 24 marks)



**MANIPAL UNIVERSITY**

FIRST YEAR B.P.T./B.O.T./B.Sc.M.L.T./B.Sc.N.M.T./B.Sc.R.T.T. DEGREE EXAMINATION – JUNE 2008

**SUBJECT: PHYSIOLOGY**

Tuesday, June 10, 2008

Time available: 3 Hours.

Max. Marks: 80

**1. Essay:**

- 1A. Describe the origin and conduction of impulse in the human heart. Relate these events to waves of ECG.
- 1B. Draw labeled diagram showing the origin, course and termination of the corticospinal pathway. Mention three characteristic features of damage to this pathway.

(10+(7+3) = 20 marks)

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

- 2A. Cerebrospinal fluid.
- 2B. Neuromuscular junction.
- 2C. Functions of skin.
- 2D. Carbon dioxide transport in blood.
- 2E. Types of transport mechanisms across cell membrane.
- 2F. Composition of blood.
- 2G. Salivary secretion-composition and regulation.
- 2H. Ovarian hormones.

(5×8 = 40 marks)

**3. Write brief answers to the following:**

- 3A. List any four functions kidney.
- 3B. Define ovulation. Mention two methods to detect the time of ovulation.
- 3C. Name four hormones that increase plasma glucose level.
- 3D. List two adverse effects of mismatched blood transfusion.
- 3E. Define sensory receptor. List two properties of sensory receptor.
- 3F. What is hemophilia?
- 3G. List two functions of middle ear.
- 3H. Draw a diagram of the motor unit.
- 3I. Mention two causes of tachycardia.
- 3J. Define the following:  
i) Hypoxia ii) Apnea

(2×10 = 20 marks)



**MANIPAL UNIVERSITY****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.I.T.  
DEGREE EXAMINATION – JUNE 2008****SUBJECT: BIOCHEMISTRY  
(NEW REGULATIONS)**

Wednesday, June 11, 2008

Time available: 1½ Hours

Max. Marks: 40

✍ **Answer ALL questions.**

1. Classify polysaccharides. Give TWO examples for each with their functions. (4 marks)
2. Write the reactions of the citric acid cycle. Add a note on its energetics. (8 marks)
3. Mention TWO physiologically important compounds each derived from glycine, tyrosine, histidine and tryptophan. (4 marks)
4. Give the RDA, sources, biochemical functions and disorders for Vitamin A. (6 marks)
5. Give the normal serum level and TWO conditions in which they are altered for glucose and protein. (3 marks)
6. Write the reactions involved in the oxidation of palmitic acid. (6 marks)
7. What is the diagnostic importance of serum creatine kinase and alanine transaminase? (3 marks)
8. What is biological value of a protein? Mention protein sources with high biological value. (2 marks)
9. Mention the causes for lactose intolerance. Describe the clinical features and biochemical changes occurring after the intake of milk in these patients. (4 marks)



## MANIPAL UNIVERSITY

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2008

SUBJECT: PHARMACOLOGY

Thursday, June 12, 2008

Time: 3 Hrs.

Max. Marks: 80

✍ Answer all questions.

- 1A. List the various sources of drugs with one example for each.  
1B. Define the following terms and describe any ONE factor affecting them.  
i) Biotransformation    ii) Bioavailability.  
(4+6 = 10 marks)
- 2A. Define the following:  
i) Chemoprophylaxis.    ii) Suprainfection  
2B. List TWO Fluoroquinolones. Mention TWO uses and TWO adverse effects of any one.  
2C. Classify antimicrobial agents based on the mechanism of action with examples.  
(2+3+4 = 9 marks)
3. Explain the mechanism of action of the following drugs and give ONE indication along with the route of administration.  
3A. Atropine.  
3B. Neostigmine.  
3C. Nitroglycerine.  
3D. Timolol  
3E. Frusemide.  
(3×5 = 15 marks)
4. Give pharmacological basis for the following:  
4A. Morphine is contraindicated in head injury.  
4B. Vitamin K in warfarin overdose.  
4C. Dantrolene in malignant hyperthermia.  
4D. Digoxin in congestive cardiac failure.  
(3×4 = 12 marks)
5. Write briefly on:  
5A. Co-trimoxazole.  
5B. Anti-tussives.  
5C. Dissociative anaesthesia.  
5D. Uses and adverse effects of thiazides.  
5E. H<sub>1</sub> blockers.

(3×5 = 15 marks)

6. Mention FOUR uses and FOUR contraindications of corticosteroids. Explain why they should not be stopped suddenly.

(4+2 = 6 marks)

7. Calculate the amount of ingredients required to make 3.5L of 5% dextrose solution in normal saline.

(5 marks)

8. Mention TWO uses and TWO adverse effects of following.

8A. Diazepam.

8B. Penicillin-G.

8C. Prazosin.

8D. Aspirin.

(2×4 = 8 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2008****SUBJECT: RESPIRATORY THERAPY SCIENCE – I**

Friday, June 13, 2008

Time: 3 Hrs.

Max. Marks: 80

- ✍ **Draw diagrams wherever necessary.**
- ✍ **Answer to the question and avoid padding of answers.**

1. Define humidity and types of humidity. List the indications for humidification. Write briefly on different types of humidifiers. Mention advantages and disadvantages of heated humidifier over heat moisture exchanger.

(2+2+4+4+4 = 16 marks)

2. State each gas laws and give one application of each gas law.

- 2A. Coanda Effect  
2B. Poiseuille's Law  
2C. Bernoulli's Principle  
2D. Laplace's Law

(4×4 = 16 marks)

3. Write short notes on:

- 3A. Advantages and disadvantages of tracheostomy over orotracheal intubation.  
3B. Oxygen Toxicity.  
3C. Types of flows and their significance in the respiratory physiology.  
3D. Bourdon pressure gauge.  
3E. Ultrasonic nebulizer.  
3F. Molecular sieve concentrator.

(8×6 = 48 marks)



|          |  |  |  |  |  |  |  |  |  |  |
|----------|--|--|--|--|--|--|--|--|--|--|
| Reg. No. |  |  |  |  |  |  |  |  |  |  |
|----------|--|--|--|--|--|--|--|--|--|--|

## MANIPAL UNIVERSITY

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – JUNE 2008

SUBJECT: PATIENT CONTACT TECHNIQUES

Saturday, June 14, 2008

Time: 3 Hrs.

Max. Marks: 80

✍ **Long Answers:**

1. On the way back to your hostel you see a student lying unconscious on the road side. Describe in detail the assessment and treatment of the victim at the incident site. Mention any two conditions which causes cardiopulmonary arrest.

(12+4 = 16 marks)

2. Define universal precautions. What are the different standard precautions that you would take while handling a patient suspecting infection? Mention two diseases that can be transmitted without taking adequate universal precautions.

(4+8+4 = 16 marks)

3. Write short notes on:

3A. Measurement of non invasive blood pressure.

3B. Postural Drainage Therapy for a patient with right upper lobe collapse.

3C. Normal and abnormal breath sounds. Mention two conditions which produces abnormal breath sounds.

3D. Territories used during patient interview.

3E. Write the normal values and mention one condition which alter the normal values:

i) Platelet count    ii) Creatinine    iii) Pottasium    iv) Hematocrit

3F. Heimlich Manoeuvre.

(8×6 = 48 marks)

