Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUGUST 2005

SUBJECT: ANATOMY

Monday, August 22, 2005

Time: 1½ Hrs. Max. Marks: 40

Answer all questions. Draw neat labeled diagram wherever necessary.

1. Name the parts of the respiratory tract. Give an account of the external features of lung.

(3+5 = 8 marks)

2. Give an account of the position, blood supply and microscopic structure of the thyroid gland.

(1+3+4 = 8 marks)

3. Answer briefly on:

(3×8 = 24 marks)

3A. Thoracic cage.

3B. Microscopic structure of an artery.

3C. C.S.F. circulation.

3D. Origin, course and termination of the posterior column tract.

3E. Nephron.

3F. Microscopic structure of testis.

3G. Stomach.

3H. Intercostal space.

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUGUST 2005

SUBJECT: PHYSIOLOGY

Tuesday, August 23, 2005

Time: 3 Hrs. Max. Marks: 80

Answer ALL questions.

1. Name four hyperglycaemic hormones and give the source of each. Give the cause and two features each for: i) Diabetes mellitus ii) Gigantism

(10 marks)

2A. Name the plasma proteins and give their normal values. List four functions of plasma proteins.

2B. Name the different types of muscles. List two properties of muscles.

2C. List four functions of hypothalamus. Explain any one of them.

2D. i) Name the sites of sodium reabsorption in the nephron.
ii) Define and give the normal value of Glomerular filtration rate.

2E. Name the nerves that supply the heart. Give the role of each.

(4×5 = 20 marks)

3A. Name one permanent and one temporary contraceptive method, each in male and female.

3B. Name two gastrointestinal hormones with any one action for each.

3C. Give the normal respiratory rate. List two functions of upper respiratory tract.

3D. Define and give the normal value for: i) End diastolic volume ii) Stroke volume

3E. Give a cause for each of the following:
i) macrocytic anaemia ii) microcytic anaemia
iii) hemophilia iv) purpura

(2×5 = 10 marks)

4A. Name the muscles involved in respiration. Explain their role in mechanics of respiration.

4B. Name the different forms of O_2 and CO_2 transport in blood. Give the normal values in arterial blood of: i) PO_2 ii) PCO_2 iii) pH

(10 marks)

5A. Define erythropoiesis. Name the site of erythropoiesis in adults. Give the normal value of RBC count in adult female, adult male and infants. Mention three factors regulating erythropoiesis.

5B. Define reflex. Draw a neat labelled diagram of reflex arc. List any two reflexes.

5C. List four functions of kidney. Briefly explain glucose reabsorption in the renal tubules.

5D. Define arterial blood pressure. Give its normal value. Briefly explain why blood pressure should be regulated.

5E. Briefly explain the digestion and absorption of carbohydrates.

(4×5 = 20 marks)

6A. List four features of cretinism.

6B. Define isotonic contraction and isometric contraction.

6C. List four functions of skin.

6D. What is the normal heart rate in adults at rest? What happens to heart rate soon after blood loss?

6E. Define bleeding time. Give its normal value. Name one condition where bleeding time will be prolonged.

(2×5 = 10 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

FIRST YEAR B. Sc.R.T. DEGREE EXAMINATION – AUGUST 2005

SUBJECT: BIOCHEMISTRY

Wednesday, August 24, 2005

Time: 1½ Hrs. Max. Marks: 40

Answer all questions.

1. Describe the glucose absorption in small intestine with the help of a diagram.

2. How serum enzymes are useful in assessing liver function?

3. What are lipids? Classify them with one example each.

4. Describe the absorption and transport of iron.

5. How calcitriol is formed from vitamin D? Explain its role in calcium homeostasis.

6. Transamination reactions.

7. Write a note on balanced diet.

8. Write the normal blood urea level. Briefly explain the pre renal, renal and post renal causes for increased blood urea level.

9. Write a note on Lesch Nyhan syndrome.

10. Write normal serum phosphate level. Explain how hypervitaminosis D causes increase in the serum phosphate level.

(4×10 = 40 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

FIRST YEAR B.Sc.R.T. DEGREE EXAMINATION – AUGUST 2005

SUBJECT: PHARMACOLOGY

Thursday, August 25, 2005

Time: 3 Hrs. Max. Marks: 80

Answer ALL questions.

1A. List four inhalational anaesthetics.

1B. Explain four factors influencing the induction and recovery of inhalational anaesthesia.

(2+4 = 6 marks)

2A. Define Bioavailability.

2B. Enumerate four factors affecting bioavailability.

2C. Mention two methods to prolong the actions of drugs.

(1+2+2 = 5 marks)

3. Define the following terms with one example:

3A. Hypnotic

3B. Agonist

3C. Tolerance

3D. Expectorant

(2×4 = 8 marks)

4. Name two drugs used in the following conditions.

4A. Congestic cardiac failure

4B. Mild hypertension

4C. Post operative pain

4D. Wide angle glaucoma

4E. Typhoid fever

(1×5 = 5 marks)

5A. List two differences between neostigmine and physostigmine.

5B. Name 2 alpha – blockers.

5C. Mention two uses and two adverse effects of alpha blockers.

5D. Mention two contraindications of adrenaline

(2+1+(1+1)+1 = 6 marks)

6. Give the pharmacological basis for the following:

6A. Atropine as preanaesthetic medication.

6B. Nitroglycerine in acute angina.

6C. Tetracyclines are contraindicated in pregnancy.

6D. Steroids should not be discontinued abruptly.

6E. Morphine is contraindicated in head injury.

(3×5 = 15 marks)

7. Write briefly on:

7A. Effects of neuropeptides on bronchial smooth muscle.

7B. Thrombolytics.

7C. Nifedipine.

7D. Succinyl choline apnoea.

7E. Chemoprophylaxis.

(3×5 = 15 marks)

8A. List two opioid analgesics.

8B. Mention four indications for use of aspirin.

8C. Mention two adverse effects of aspirin and two adverse effects of opioid analgesics.

8D. Add a note on treatment of aspirin poisoning.

(1+2+2+4 = 9 marks)

9A. Mention three groups of drugs used in cough with one example for each group.

9B. Write briefly on leukotriene antagonists.

(3+3 = 6 marks)

10A. Name two inhalational steroids.

10B. Mention two adverse effects of inhalational steroids and methods adopted to minimize the same.

10C. Name two drugs contraindicated in bronchial asthma.

(1+(1+2)+1 = 5 marks)

Reg. No.										

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUGUST 2005

SUBJECT: RESPIRATORY THERAPY SCIENCE - I

Friday, August 26, 2005

Time: 3 Hrs. Max. Marks: 80

Answer ALL questions. Draw diagrams wherever necessary.

1. Define cylinders and describe the parts of the cylinder with the help of a neat diagram. Mention the safety devices and other safety measures present in cylinders.

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

2. Define humidity and types of humidity. List the indications for humidification. Write brief notes on different types of humidifiers available. Mention the advantages and disadvantages of heated humidifier as compared to heat and moisture exchanger.

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

3. Write briefly on:

3A. Oxygen toxicity.

3B. Nebulisers.

3C. Endotracheal Intubation.

3D. Pharyngeal airways.

3E. Manual resuscitators.

3F. Capnometry.

(8×6 = 48 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

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FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUGUST 2005

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