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 – AUGUST 2011

SUBJECT: ANATOMY

Monday, August 22, 2011

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

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1. List the endocrine glands in the human body. Briefly describe any two of the endocrine glands.

(2+3+3 = 8 marks)

2. List the parts of digestive system. Explain the internal features of the pharynx.

(2+6 = 8 marks)

3. Answer briefly on:

3A. Typical spinal nerve

3B. Trachea

3C. Pericardium

3D. Male urethra

3E. Arch of the aorta

3F. Uterine tube

3G. External features of spinal cord

3H. Middle ear

(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. DEGREE EXAMINATION – AUGUST 2011

SUBJECT: PHYSIOLOGY

Tuesday, August 23, 2011

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

Answer all questions.

1. Essay:

1A. Mention the functions of hypothalamus. Explain any two functions.

1B. Name the hormones of anterior pituitary and posterior pituitary. Mention one function of each of these hormones.

(10+10 = 20 marks)

2. Write short notes on:

2A. Functions of stomach.

2B. Glomerular filtration rate.

2C. Functions of middle ear.

2D. Transport of oxygen in blood.

2E. Functions of placenta.

2F. Stretch reflex.

2G. Functions of platelets.

2H. Actions of aldosterone and cortisol.

(5×8 = 40 marks)

3. Write brief answers to the following:

3A. Draw a labelled diagram of a sarcomere.

3B. Tabulate two differences between smooth and skeletal muscles.

3C. Mention two factors affecting cardiac output.

3D. Define stroke volume and give its normal value.

3E. Mention two actions of testosterone.

3F. Name the hormones secreted by the ovary.

3G. List two differences between a cretin and a pituitary dwarf.

3H. Mention any two features of cerebellar lesion.

3I. List any two differences between sympathetic and parasympathetic nervous system.

3J. Mention the location in the cerebral cortex where visual and auditory impulses are relayed.

(2×10 = 20 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.I.T.

DEGREE EXAMINATION – AUGUST 2011

SUBJECT: BIOCHEMISTRY

Wednesday, August 24, 2011

Time: 10.00-11.30 Hours Max. Marks: 40

- **Answer ALL the questions.**
- **Draw diagrams and flow charts wherever appropriate.**

1. Write in detail the synthesis of glucose from pyruvate.

(8 marks)

2. Discuss the metabolism of calcium under the following headings:

2A. Factors favouring and hindering absorption.

2B. **SIX** functions.

(3+3 = 6 marks)

3. Answer the following:

3A. With the help of a graph describe the effect of substrate concentration on enzyme activity.

3B. Write the reactions of ketogenesis.

3C. Explain the structure of Watson and Crick model of DNA.

3D. Name the lipoproteins and mention the function of each.

(4×4 = 16 marks)

4. Answer the following:

4A. Mention four differences between kwashiorkor and marasmus.

4B. Write short notes on the principle buffer system of the ECF.

4C. Write four functions of essential fatty acids.

4D. Define transamination reaction. Give one example.

4E. Give the co-enzyme form and the deficiency manifestations of thiamine and niacin.

(2×5 = 10 marks)

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FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUGUST 2011

SUBJECT: PHARMACOLOGY

Thursday, August 25, 2011

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

1A. Classify N S A I Ds with examples for each group.

1B. Mention three uses and three adverse effects of any one of them.

(3+3 = 6 marks)

2. Explain the following terms with examples:

2A. Anaphylaxis.

2B. Chemoprophylaxis.

2C. Hematinics.

2D. Prodrug.

2E. Tachyphylaxis.

(2×5 = 10 marks)

3. Calculate the amount of ingredients required to prepare 2500ml of 5% dextrose in normal saline.

(4 marks)

4A. Mention four adverse effects and four uses of glucocorticoids.

4B. List four amino glycoside antibiotics and mention the adverse effects of them.

4C. List Four opioid analgesics, mention two uses and two adverse effects of any one of them.

4D. Mention four groups of semi synthetic penicillins with examples.

4E. Name four neuropeptides that regulate bronchial smooth muscle and vasculature.

(4×5 = 20 marks)

5. Write antidote for the over dosage of:

5A. Paracetamol.

5B. Heparin.

5C. Morphine.

5D. Diazepam.

(1×4 = 4 marks)

6. Explain why:

6A. Morphine is contraindicated in head injury.

6B. Corticosteroids should not be stopped abruptly.

6C. Tetracyclines are contraindicated in pregnant women.

6D. Combinations of antimicrobial agents are used.

(2×4 = 8 marks)

7. Mention one indication with route of administration:

7A. Dopamine.

7B. Adrenaline.

7C. Ranitidine.

7D. Hydrocortizone.

7E. Salbutamol.

(2×5 = 10 marks)

8A. Classify antianginal drugs with suitable examples.

8B. Classify tetracyclines with examples.

8C. Classify antihypertensive drugs with examples.

(3×3 = 9 marks)

9. Write briefly on:

9A. Spinal anesthesia.

9B. Adverse effects of digoxin.

9C. Frusemide.

(2×3 = 6 marks)

10. Enumerate different types of shock. List the drugs used in treatment of shock.

(3 marks)

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FIRST YEAR B.Sc. R.T. DEGREE EXAMINATION – AUGUST 2011

SUBJECT: RESPIRATORY THERAPY SCIENCE – I

Friday, August 26, 2011

Time: 10:00-13:00 Hrs. Max. Marks: 80

- **Answer the following questions.**
- **Draw diagrams wherever necessary.**

1. Draw and label the parts of an endotracheal tube. Enumerate four indications for endotracheal intubation. What are immediate and delayed complications of endotracheal intubation.

(4+4+8 = 16 marks)

2. Define Humidity and types of humidity. List the indications for humidification. Discuss the need for humidification of respired gases in intensive care unit. Enumerate types of humidifiers.

(2+2+2+6+4 = 16 marks)

3. Short notes:

3A. Oxygen Concentrators

(8 marks)

3B. High airflow oxygen enrichment devices (HAFOE).

(8 marks)

3C. i) Write the pin index safety system (PIS) and medical gas cylinder color coding system for O2, air, helium, helium and oxygen, CO2, CO2 and O2, nitrous oxide, cyclopropane, ethylene

ii) Add a note on medical gas piping system.

((2+4)+2 = 8 marks)

3D. Define Oxygen analyzer. With the help of a diagram explain the working principle of Electro chemical oxygen analyzer.

(2+6 = 8 marks)

3E. Explain in detail the characteristics of therapeutic aerosols.

(8 marks)

3F. Working principle of a 'VENTURI' device for Oxygen therapy.

(8 marks)