Reg. No.										

MANIPAL UNIVERSITY

FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2007

SUBJECT: ANATOMY

(COMMON FOR BOTH OLD & NEW REGULATIONS)

Monday, August 27, 2007

Time available: 3 Hours. Max. Marks: 80

All questions are compulsory.

1. Describe the Knee joint under the following headings:

1A. Bones taking part.

1B. Intra articular features.

1C. Capsule and ligaments.

1D. Movements and muscles producing them.

(3+5+9+3 = 20 marks)

2. Describe Supination and Pronation. Give a brief account of the joints involved and the muscles producing them.

(4+8+8 = 20 marks)

3. Write short notes on:

3A. Ventricles and CSF circulation.

3B. Trigeminal nerve.

3C. Internal capsule.

3D. Pyramidal tract.

3E. Basal nuclei

(5×5 = 25 marks)

4. Write short notes on:

4A. Liver.

4B. Sternum.

4C. Curvatures of Vertebral column.

4D. Wrist drop.

4E. Fertilization.

(3×5 = 15 marks)

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MANIPAL UNIVERSITY

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 2007

SUBJECT: PHYSIOLOGY

Tuesday, August 28, 2007

Time available: 3 Hours. Max. Marks: 80

Answer all the questions.

1. **Essay:**

1A. Explain the mechanism of normal breathing.

1B. Describe neuromuscular transmission in skeletal muscles.

(10×2 = 20 marks)

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

2A. Electrocardiogram

2B. Glomerular filtration

2C. Nerve action potential

2D. Effects of interruption to pyramidal tract

2E. Refractory errors of eye and their correction

2F. Endometrial changes during menstrual cycle

2G. Functions of anterior pituitary gland

2H. Movements in gastrointestinal tract

(5×8 = 40 marks)

3. **Short answer questions:**

3A. Name two reflexes mediated at spinal cord level.

3B. Name two anticoagulants and mention the mechanisms of action of any one.

3C. List four functions of gastric juice.

3D. List two contraceptive methods each in male and female.

3E. Outline the mechanism of final concentration of urine in the distal nephron.

3F. Mention the steps of spermatogenesis.

3G. Mention consequences of low ionic calcium level in the blood.

3H. Outline the effects of exercise on ventilation and diffusion of gases.

3I. Enumerate four functions of plasma proteins.

3J. Give the resting blood flow to any two of the following organs.

i) Kidney ii) Heart muscle iii) Brain

(2×10 = 20 marks)

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FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2007

SUBJECT: BIOCHEMISTRY

(NEW REGULATIONS)

Wednesday, August 29, 2007

Time available: 1½ Hours | Max. Marks: 40

Answer ALL questions.

1. Classify enzymes giving one example for each class.

(3 marks)

2. Discuss gluconeogenesis under the following headings:
2A. Site and subcellular site.
2B. Four substrates.
2C. Key gluconeogenic enzymes and the reactions catalysed by them.

(1+2+4 = 7 marks)

3. Discuss ketogenesis under the following headings:
3A. Site and subcellular site.
3B. Reactions.

(1+4 = 5 marks)

4. Write a note on transamination reaction of amino acids.

(4 marks)

5. Define the following terms:
5A. Biological value of proteins.
5B. Limiting amino acids.
5C. Basal metabolic rate
5D. Essential fatty acids.

(4 marks)

6. Name two essential aromatic amino acids and two important compounds each formed from them.

(3 marks)

7. Give two examples each for the following:
7A. Purely ketogenic amino acids.
7B. Sulphur containing amino acids.
7C. Disaccharides.
7D. Lipoproteins.

(4 marks)

8. Define diabetes mellitus. Write an account on its signs and symptoms.

(5 marks)

9. Write two causes and biochemical findings in metabolic acidosis and respiratory alkalosis.

(5 marks)

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FIRST YEAR B.P.T. DEGREE EXAMINATION – AUGUST 2007

SUBJECT: EXERCISE THERAPY – I
(NEW REGULATION)

Thursday, August 30, 2007

Time available: 3 Hours | Max. Marks: 80

Answer ALL the questions.

1. **Essay Questions:**

1A. What are the derived positions? Explain derived positions of sitting and standing.

(2+4+4 = 10 marks)

1B. Define goniometry. Enumerate eight principles of goniometry. Explain the technique of goniometry to measure shoulder joint rotation.

(1+4+5 = 10 marks)

2. **Short notes:**

2A. Types of muscle work and ranges of muscle work

2B. Techniques of general relaxation

2C. Types of suspension and its uses

2D. Physiological and therapeutic effects of percussion manipulations

2E. Parallelogram of forces

2F. Limb length discrepancy and its assessment methods

2G. Deep sensations

2H. Principles of home program

(5×8 = 40 marks)

3. **Brief answers:**

3A. Define Newton's second law.

3B. Mention any two equipments used to train balance in Physiotherapy.

3C. Mention the vital signs and its normal range.

3D. Mention any two advantages of hydrotherapy.

3E. Mention any four indications for lower limb massage.

3F. Define reflex and classify them.

3G. Mention any four walking aids.

3H. Define angle of pull and its relevance.

3I. What is true and apparent limb length?

3J. What are recreational exercises?

(2×10 = 20 marks)