

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2005

SUBJECT: ANATOMY

(COMMON FOR BOTH OLD & NEW REGULATIONS)

Monday, August 22, 2005

Time available: 3 Hours.

Max. Marks: 80

✍ All questions are compulsory. Illustrate the answers with suitable diagrams.

1. Describe the arches of foot. Write briefly on factors maintaining arches of foot. Add a note on its applied anatomy.

(8+8+4 = 20 marks)

2. Describe the Ulnar nerve under the following headings:

2A. Origin and course.

2B. Distribution.

2C. Effect of injury.

(8+6+6 = 20 marks)

3. Write short notes on:

3A. Spinal cord.

3B. Pons.

3C. Facial nerve.

3D. Corpus callosum.

3E. Internal capsule.

(5×5 = 25 marks)

4. Write short notes on:

4A. Parts and positions of uterus.

4B. Graffian follicle.

4C. Head of femur.

4D. Blood supply of heart.

4E. Bronchopulmonary segments.

(3×5 = 15 marks)



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FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2005

SUBJECT: PHYSIOLOGY

(COMMON FOR BOTH OLD & NEW REGULATIONS)

Tuesday, August 23, 2005

Time available: 3 Hours.

Max. Marks: 80

✍ Answer all questions.

✍ Draw labelled diagrams wherever appropriate.

1. Draw a neat labelled graph to show the lung volumes and lung capacities and give their normal values. Define vital capacity and give its significance. (6+4 = 10 marks)

- 2A. List any four functions of hypothalamus. Explain any one of them in detail.
- 2B. Draw a diagram to show the pathway for taste sensation from posterior 1/3 of tongue. Define ageusia and dysgeusia.
- 2C. Name the different types of hypoxia and give one example for each.
- 2D. Name efferent nerves to heart and give their actions on heart rate for each. List four conditions which increase heart rate.
- 2E. Describe the specialized conducting system of human heart. Add a note on conduction block. ((2+2)+(2+2)+(2+2)+4+(3+1) = 20 marks)

- 3A. Name four hormones which cause hyperglycemia.
- 3B. Draw a neat labelled diagram to show nerve supply to urinary bladder.
- 3C. List two actions each of the following GI hormones
 i) gastrin ii) secretin
- 3D. Name two in vivo anticoagulants and explain the action of any one of them.
- 3E. Draw a diagram to show following areas in cerebral cortex.
 i) somato sensory area ii) primary motor area (2+2+(1+1)+(1+1)+2 = 10 marks)

4. Draw a neat labelled diagram of the corticospinal tract. Give features of lesions at the level of internal capsule. Tabulate four differences between upper motor neuron lesion and lower motor neuron lesions. (4+2+4 = 10 marks)

- 5A. Giving examples, classify receptors.
- 5B. Tabulate four differences between skeletal muscle and cardiac muscle.
- 5C. Explain the changes that take place during accommodation to near vision. Add a note on presbyopia.
- 5D. Enumerate four special features of Renal circulation.
- 5E. Explain intrapleural and intra alveolar pressure changes during normal respiration. (4+4+(3+1)+4+4 = 20 marks)

- 6A. List four factors regulating erythropoiesis.
- 6B. Explain the term glycosuria. Name two conditions where glycosuria occurs.
- 6C. Name the posterior pituitary hormones. Add a note on diabetes insipidus.
- 6D. Enumerate four actions of progesterone.
- 6E. List four functions of bile. (2×5 = 10 marks)



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FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2005

SUBJECT: BIOCHEMISTRY

(COMMON FOR BOTH OLD & NEW REGULATIONS)

Wednesday, August 24, 2005

Time available: 3 Hours

Max. Marks: 80

✍ Answer ALL questions.

1. Describe the Emden – Meyerhof pathway. Add a note on its energetics. (8+2 = 10 marks)
2. Define Respiratory quotient. Mention the factors affecting respiratory quotient. (1+5 = 6 marks)
3. Explain Wald's Visual cycle. (5 marks)
4. What are lipids? Classify them giving suitable examples. (2+6 = 8 marks)
5. Write short notes on:
 - 5A. Ketone bodies.
 - 5B. Galactose tolerance test.
 - 5C. Buffer system of the blood.
 - 5D. Iron absorption.
 - 5E. Mutarotation.
 - 5F. Cori's cycle.(3×6 = 18 marks)
6. Describe the role of lungs and kidneys in maintaining the blood PH. (3+3 = 6 marks)
7. Describe Urea cycle and add a note on disorders associated with it. (7+3 = 10 marks)
8. Classify enzymes. Give one example for each class. (2+8 = 10 marks)
9. Describe the features of cell membrane with a neat diagram. (7 marks)

