

**MANIPAL ACADEMY OF HIGHER EDUCATION**

(Deemed University)

**FIRST YEAR B.P.T. DEGREE EXAMINATION – MAY/JUNE 2006****SUBJECT: ANATOMY***(COMMON FOR BOTH OLD & NEW REGULATIONS)*

Monday, May 29, 2006

Time available: 3 Hours.

Max. Marks: 80

✍ **All questions are compulsory.**

1. Describe the hip joint under the following headings:

- 1A. Type, Bones taking part.
- 1B. Capsule and ligaments.
- 1C. Movements and muscles producing them.
- 1D. Applied anatomy.

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

2. Describe the Median 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. Internal Capsule.
- 3B. Descending tracts of Spinal cord.
- 3C. Ventricles of brain.
- 3D. Central sulcus.
- 3E. Pons.

(5×5 = 25 marks)

4. Write short notes on:

- 4A. Sternum.
- 4B. Kidney.
- 4C. Spermatogenesis.
- 4D. Right Lung.
- 4E. Cephalic vein.

(3×5 = 15 marks)



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**FIRST YEAR B.P.T. DEGREE EXAMINATION – MAY/JUNE 2006****SUBJECT: PHYSIOLOGY***(COMMON FOR BOTH OLD & NEW REGULATIONS)*

Tuesday, May 30, 2006

Time available: 3 Hours.

Max. Marks: 80

1. Define reflex action. Draw a neat labelled diagram showing the different components of a reflex arc. Classify reflexes and add a note on
  - i) Stretch reflex
  - ii) Withdrawal reflex

(1+2+3+4 = 10 marks)
2. Draw a neat labeled diagram of normal oxygen-haemoglobin dissociation curve. Explain the significance of different parts of the curve. State how this curve would differ after muscular exercise and why?

(3+5+2 = 10 marks)
3. Write short answers:
  - 3A. Define systolic and diastolic blood pressure and give their normal values. Name the factors that give rise to blood pressure.

(2+2 = 4 marks)
  - 3B. Draw a neat labelled diagram to show neuromuscular junction. State any two neuromuscular blockers and their mode of action.

(2+2 = 4 marks)
  - 3C. Enumerate the benefits of moderate exercise on:
    - i) Cardiovascular system
    - ii) Respiratory system

(2+2 = 4 marks)
  - 3D. Draw neat labelled diagrams showing the cause for and correction of the following:
    - i) myopia
    - ii) hypermetropia

(2+2 = 4 marks)
  - 3E. Enumerate four properties of cardiac muscle and explain any one.

(2+2 = 4 marks)
  - 3F. Draw a neat labelled diagram of nerve action potential and explain its ionic basis.

(2+2 = 4 marks)
  - 3G. List four features observed in each of the following conditions:
    - i) Cerebellar syndrome
    - ii) Parkinsonism

(2+2 = 4 marks)
  - 3H. List the contents of the middle ear and any two functions of middle ear.

(2+2 = 4 marks)

- 3I. Draw a neat labelled diagram of ECG and give the cause for each wave. Mention any two clinical uses of ECG. (3+1 = 4 marks)
- 3J. Write a short note on:  
i) Rh.system of blood grouping      ii) Juxta glomerular apparatus (2+2 = 4 marks)
4. **Answer briefly:**
- 4A. Enumerate any four functions of saliva. (2 marks)
- 4B. Draw a neat labelled diagram of nephron and mention any two hormones regulating renal tubular function. (1+1 = 2 marks)
- 4C. Tabulate any two differences between the two types of sweat glands present in the skin. (2 marks)
- 4D. State the changes in the blood flow to a muscle during muscular exercise. (2 marks)
- 4E. State any two actions of each of the following hormones  
i) insulin      ii) thyroxine (2 marks)
- 4F. Mention any one method of contraception in females, and state how it acts. (2 marks)
- 4G. State any two features for identification of eosinophil stained with Leishman's stain and mention its functions. (2 marks)
- 4H. Enumerate the primary taste sensations and state which nerves carry taste sensations from the tongue. (2 marks)
- 4I. Give two properties of synapses. (2 marks)
- 4J. Define ovulation and mention any one method to assess ovulation time. (2 marks)



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**FIRST YEAR B.P.T. DEGREE EXAMINATION – MAY/JUNE 2006****SUBJECT: BIOCHEMISTRY**  
**(COMMON FOR BOTH OLD & NEW REGULATIONS)**

Wednesday, May 31, 2006

Time available: 3 Hours

Max. Marks: 80

✍ **Answer ALL questions.**

1. Describe Denovo synthesis of palmitic acid in our body.  
(10 marks)
2. Describe the process of ammonia detoxification in our body. What are the disorders associated with the same?  
(10 marks)
3. Describe vitamin D under:
  - 3A. Digestion, absorption and transport.
  - 3B. Activation.
  - 3C. Metabolic functions.
  - 3D. Hyper and hypo vitaminosis.(10 marks)
4. Write the reactions of TCA cycle. Add a note on its energetics.  
(10 marks)
5. Explain methyl folate trap.  
(2 marks)
6. Explain lipid transport. How poly unsaturated fatty acids help to lower the blood cholesterol?  
(6 marks)
7. Name the amino acids from which following special compounds are formed.
  - 7A. Melanin
  - 7B. Heme
  - 7C. Serotonin
  - 7D. GABA(4marks)
8. Classify carbohydrates with suitable examples.  
(4 marks)
9. Write a note on collagen and disorders associated with it.  
(6 marks)

10. List 4 functions of cholesterol in our body.

(2 marks)

11. Give two reactions each where coenzyme forms of following vitamins participate.

11A. Vitamin B 1.

11B. Vitamin B 2.

11C. Niacin.

11D. Pantothenic acid.

(8 marks)

12. Explain fluid mosaic model of cell membrane with a neat diagram.

(4 marks)

13. Enlist the differences between kwashiorkor and marasmus.

(4 marks)



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**FIRST YEAR B.P.T. DEGREE EXAMINATION – MAY/JUNE 2006****SUBJECT: EXERCISE THERAPY – I****(NEW REGULATION)**

Thursday, June 01, 2006

Time available: 3 Hours

Max. Marks: 80

**Answer ALL the questions.**

## 1. Essay Questions:

1A. Define passive movement. Classify them. Write down the principles of passive movements and add a note on its effects and uses.

(1+2+4+3 = 10 marks)

1B. Define massage. Classify massage manipulations. How do you prepare yourself and patient before giving massage manipulations? Mention four indications for upper limb massage.

(2+3+3+2 = 10 marks)

## 2. Short notes:

(5×8 = 40 marks)

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

2B. Techniques of general relaxation.

2C. Types of suspension.

2D. Ten principles of goniometry.

2E. Dermatomes.

2F. Parallelogram of forces.

2G. Hanging.

2H. Classification of sensations.

## 3. Short answers:

(2×10 = 20 marks)

3A. Classify equilibrium.

3B. Mention any four derived positions of lying.

3C. Mention any two advantages of hydrotherapy.

3D. Mention any four general contraindications for massage.

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

3F. Mention the factors responsible for increased stability.

3G. Draw a reflex arc.

3H. Mention any two uses of friction in Physiotherapy.

3I. Mention the vital signs.

3J. Define Hooke's law.

