

**MANIPAL UNIVERSITY****FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2009****SUBJECT: ANATOMY****(COMMON FOR BOTH OLD & NEW REGULATIONS)**

Wednesday, August 05, 2009

Time: 10.00-13.00 Hours.

Max. Marks: 80

1. Explain the classification, formation, supports (factors maintaining) and applied anatomy of the arches of the foot.  

(2+4+10+4 = 20 marks)
  
2. Explain the ulnar nerve under the following headings:
  - 2A. Origin and root value
  - 2B. Course and relations
  - 2C. Branches and distribution
  - 2D. Applied anatomy

(2+8+8+2 = 20 marks)
  
3. Write briefly on:
  - 3A. Tracts in the posterior funiculus of spinal cord
  - 3B. Functional areas of cerebral cortex
  - 3C. Basal nuclei
  - 3D. Fourth ventricle
  - 3E. Corpus callosum

(5×5 = 25 marks)
  
4. Write short notes on:
  - 4A. Cartilaginous joints
  - 4B. Uterus
  - 4C. Trachea
  - 4D. Suprarenal gland
  - 4E. Germ layers

(3×5 = 15 marks)



## MANIPAL UNIVERSITY

FIRST YEAR B.P.T./B.Sc.M.L.T./B.Sc.R.T. DEGREE EXAMINATION – AUGUST 2009

SUBJECT: PHYSIOLOGY

Thursday, August 06, 2009

Time: 10.00-13.00 Hours.

Max. Marks: 80

1. Define the terms systolic and diastolic blood pressures. Give their normal values. Explain the role of baroreceptors in the regulation of blood pressure.  
(10 marks)
2. Name two ascending and two descending tracts. Mention the function of each tract. Trace the pathway of any one. State two differences between upper motor neuron and lower motor neuron lesions.  
(10 marks)
3. Short essays:
  - 3A. In the form of a flow chart describe the intrinsic and extrinsic pathways of blood clotting.
  - 3B. Draw a labelled diagram of a neuron. Explain the functions of different parts.
  - 3C. Describe the composition and functions of saliva.
  - 3D. Explain how oxygen is transported in the body.
  - 3E. What causes acromegaly and cretinism? Mention two clinical features of each of these conditions.
  - 3F. Outline the mechanism of urine formation.
  - 3G. Explain the mechanism of hearing.
  - 3H. Mention the different types of transport mechanisms that occur across a cell membrane. Explain any one.(5×8 = 40 marks)
4. Write short answer to each of the following:
  - 4A. Define the following terms and give their normal values
    - i) Tidal volume
    - ii) Stroke volume
  - 4B. Define 'muscle fatigue'. Mention the cause fatigue.
  - 4C. Mention the functions of middle ear.
  - 4D. State the functions of platelets.
  - 4E. Mention two clinical features of Parkinson's disease.
  - 4F. What is the normal heart rate? Mention two factors that increase heart rate.
  - 4G. Mention two actions of cortisol. Name the condition that results due to excess cortisol production.
  - 4H. Enumerate the changes that occur when one is exposed to hot environment.
  - 4I. Give the components of bile.
  - 4J. Mention two actions of testosterone.(2×10 = 20 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.P.T./ B.Sc. R.T./ B.Sc.C.V.T DEGREE EXAMINATION – AUGUST 2009****SUBJECT: BIOCHEMISTRY  
(NEW REGULATIONS)**

Friday, August 07, 2009

Time: 10.00-11.30 Hours

Max. Marks: 40

1. Classify enzymes giving one example for each class. (6 marks)
2. Describe the biochemical changes occurring after intake of milk in a person with lactose intolerance. (4 marks)
3. Write the reactions of the citric acid cycle. (6 marks)
4. Describe the process of digestion of dietary lipids in the GI tract. (5 marks)
5. Classify amino acids on the basis of their metabolic fate giving examples for each class. (3 marks)
6. Give the steps involved in the beta oxidation of palmitic acid. (6 marks)
7. Define dietary fibers and describe their role in nutrition. (3 marks)
8. Give the dietary sources, RDA and describe the absorption of iron. (3 marks)
9. Mention the normal serum levels and one condition in which they are altered for glucose, protein, urea and cholesterol. (4 marks)



## MANIPAL UNIVERSITY

FIRST YEAR B.P.T. DEGREE EXAMINATION – AUGUST 2009

SUBJECT: EXERCISE THERAPY – I  
(NEW REGULATION)

Saturday, August 08, 2009

Time: 10.00-13.00 Hours

Max. Marks: 80

✍ Answer ALL questions.

## 1. Essay Questions:

- 1A. Explain in detail the different types of muscle work and their mechanics in terms of mechanical advantage and angle of pull.
- 1B. Define starting positions. Explain in detail the factors that affect their stability.

(10×2 = 20 marks)

## 2. Short notes:

- 2A. Principles of Goniometry.
- 2B. Uses of Hydrotherapy.
- 2C. Methods of relaxation.
- 2D. Principles of suspension therapy.
- 2E. Facial massage.
- 2F. Limb length measurements.
- 2G. Reflex testing methods.
- 2H. Advantages and disadvantages of Group exercises.

(5×8 = 40 marks)

## 3. Brief answers:

- 3A. Define levers.
- 3B. What are the vitals signs?
- 3C. Define springs and pulleys?
- 3D. Various equipments in a therapeutic gymnasium.
- 3E. What are vertical and axial suspensions?
- 3F. Anatomical axes and planes.
- 3G. Mention any four contraindications to massage.
- 3H. Normal ROM of wrist joint.
- 3I. Mention any four cortical sensations.
- 3J. Merits and demerits of a home program.

(2×10 = 20 marks)

