

MANIPAL UNIVERSITY**FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2012****SUBJECT: ANATOMY
(COMMON FOR BOTH OLD & NEW REGULATIONS)**

Tuesday, August 21, 2012

Time: 10.00-13.00 Hours.

Max. Marks: 80

Answer the following questions:**1. Give a brief account of ulnar nerve under the following headings:**

- 1A. Origin and root value
- 1B. Course and relations
- 1C. Branches and distribution
- 1D. Applied anatomy

(3+6+8+3 = 20 marks)

2. Give a brief account of knee joint under the following headings:

- 2A. Intracapsular structures
- 2B. Locking and unlocking mechanisms
- 2C. Nerve supply
- 2D. Names of bursae around it
- 2E. Applied anatomy

(8+4+2+2+4 = 20 marks)

3. Write briefly on:

- 3A. Corpus callosum, its parts and relations
- 3B. Motor and sensory areas of cerebral hemispheres
- 3C. Pyramidal tract
- 3D. Basal ganglia
- 3E. Internal structure of pons

(5×5 = 25 marks)

4. Write short notes on:

- 4A. Typical spinal nerve
- 4B. Ovary
- 4C. Pleura
- 4D. Left kidney
- 4E. Hypophysis cerebri

(3×5 = 15 marks)



MANIPAL UNIVERSITY
FIRST YEAR B.P.T./BOT DEGREE EXAMINATION – AUGUST 2012

SUBJECT: PHYSIOLOGY
(BPT-NEW/BOT-OLD REGULATION)

Wednesday, August 22, 2012

Time: 10.00-13.00 Hours.

Max. Marks: 80

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

1. In the form of a flow chart, write the steps involved in the intrinsic and extrinsic pathways of blood coagulation.

(10 marks)

2. **Explain cardiac cycle under the following headings:**

- 2A. Definition
- 2B. Normal duration
- 2C. Graph depicting left ventricular pressure changes

(1+1+8 = 10 marks)

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

- 3A. Mention THREE actions of thyroid hormones and explain any one function.
- 3B. Describe the mechanism of quiet inspiration.
- 3C. Define deglutition. Describe the second stage of deglutition.
- 3D. Draw a labeled diagram of the pathway carrying fine touch sensation from lower limbs.
- 3E. Describe the functions of middle ear.
- 3F. Describe micturition reflex.
- 3G. Draw a labeled diagram of the nerve action potential and give the ionic basis of it.
- 3H. In the form of a flow chart, describe the events that occur during neuromuscular transmission in skeletal muscle.

(5×8 = 40 marks)

4. **Write short answers for the following:**

- 4A. Mention two features of Parkinson's disease.
- 4B. Name the contractile proteins in skeletal muscle.
- 4C. Define tubular maximum. Give the normal value of T_m for glucose.
- 4D. Name the phases of the uterine cycle.
- 4E. State Landsteiner's law.
- 4F. Write two differences between rods and cones.
- 4G. Define blood pressure. Give its normal value in adults under resting conditions.
- 4H. Mention two factors which shift the oxygen hemoglobin dissociation curve to the right.
- 4I. List two functions of testosterone.
- 4J. Enumerate two physiological actions of cortisol.

(2×10 = 20 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.P.T./B.O.T/B.Sc. R.T./ B.Sc. M.I.T. DEGREE EXAMINATION – AUGUST 2012****SUBJECT: BIOCHEMISTRY
(COMMON FOR BOTH OR AND NR)**

Thursday, August 23, 2012

Time: 10.00-11.30 Hours

Max. Marks: 40

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

1. Describe the synthesis of mature collagen with diagrams. (8 marks)
2. Write the site, subcellular site and reactions of urea cycle. (6 marks)
3. **Write short notes on the following:**
 - 3A. Structure of DNA
 - 3B. FOUR functions each of calcium and phosphorus
 - 3C. Classification of lipids with examples
 - 3D. Reactions of β -oxidation in mitochondria(4×4 = 16 marks)
4. **Give brief answers for the following:**
 - 4A. Define specific dynamic action and give values for all THREE macronutrients.
 - 4B. Name FOUR physiologically important compounds derived from tyrosine.
 - 4C. Name TWO glycogen storage disorders with their deficient enzymes.
 - 4D. Define proenzymes with TWO examples.
 - 4E. Write the normal serum levels of uric acid, total protein, glucose and creatinine. (2×5 = 10 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.P.T. DEGREE EXAMINATION – AUGUST 2012****SUBJECT: EXERCISE THERAPY – I
(NEW REGULATION)**

Friday, August 24, 2012

Time: 10.00 – 13.00 Hours

Max. Marks: 80

✍ **Answer ALL questions.****1. Essay questions:**

1A. Define suspension therapy. Write in detail about various types of suspension therapy with examples.

(2+8 = 10 marks)

1B. Write in detail about the structure of therapeutic gymnasium. Add a note on equipments used in therapeutic gymnasium.

(4+6 = 10 marks)

2. Write short notes on:

2A. Discuss Newton's laws.

2B. Explain the types of muscle contractions with an example.

2C. Explain standing in terms of base of support and muscle work.

2D. Evaluation of superficial sensations.

2E. Describe the thermo dynamic properties of water.

2F. Compare the group, mass and recreational exercises.

2G. Explain the different types of inspiratory breathing exercises.

2H. Principles of postural drainage.

(5×8 = 40 marks)

3. Write brief answers for the following:

3A. Name any two abnormal breath sounds.

3B. Mention the demerits of home program.

3C. Name any four techniques of massage used in reducing muscle spasm.

3D. Define goniometry.

3E. List any four uses of passive movements.

3F. Define muscle tone.

3G. List the types of suspension.

3H. Mention any two deep tendon reflexes with root values.

3I. What is specific gravity of water?

3J. Mention the uses and demerits of kneading technique.

(2×10 = 20 marks)

