

MANIPAL UNIVERSITY

FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: ANATOMY
(COMMON FOR BOTH OLD & NEW REGULATIONS)

Tuesday, May 29, 2012

Time: 10.00-13.00 Hours.

Max. Marks: 80

✍ **Answer the following questions:**

1. Explain the shoulder joint in detail with a neat labeled diagram under the following headings:
- Type and bones articulating
 - Ligaments
 - Movements and muscles producing those movements
 - Applied anatomy

(3+6+7+4 = 20 marks)

2. Write a brief note on the media nerve under the following headings:

- Origin and root value
- Its course
- Structures supplied by it
- Applied anatomy

(3+5+7+5 = 20 marks)

3. **Write briefly on:**

- Internal capsule
- Functional areas on the frontal lobe of cerebrum
- Third ventricle
- CSF formation and circulation
- External features of spinal cord

(5×5 = 25 marks)

4. **Write short notes on:**

- Pleura
- Blood supply of heart
- Elbow joint
- Typical rib
- Atlanto occipital joint

(3×5 = 15 marks)



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

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

Thursday, May 31, 2012

Time: 10.00-13.00 Hours.

Max. Marks: 80

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

1. With the help of a schematic diagram describe the intrinsic pathway of blood coagulation. Name any FOUR anticoagulants. Add a note on hemophilia.
2. Mention the location of central and peripheral chemoreceptors. Describe the role of central and peripheral chemoreceptors in the regulation of respiration.

(10×2 = 20 marks)

3. Write short notes on the following:

- 3A. List different types of transport mechanisms occurring across the cell membrane. Explain any ONE with suitable example.
- 3B. Describe the functions of thyroid hormones.
- 3C. Draw a neat labeled diagram of an ECG from limb lead II. Indicate any TWO intervals. Mention the cause for each wave.
- 3D. Describe the forms and mechanism of carbon dioxide transport in blood.
- 3E. Explain the sequence of events occurring during synaptic transmission.
- 3F. Describe the excitation - contraction coupling in skeletal muscle.
- 3G. Describe the mechanism of HCl secretion in stomach.
- 3H. Describe any TWO errors of refraction and mention how they are corrected?

(5×8 = 40 marks)

4. Write brief answers to each of the following:

- 4A. Mention TWO actions of estrogen.
- 4B. Write TWO differences between skeletal muscle and cardiac muscle.
- 4C. List TWO functions of middle ear.
- 4D. List TWO functions of bile.
- 4E. Define GFR. Give its normal value.
- 4F. Name TWO contraceptive methods in males.
- 4G. Name FOUR hormones of anterior pituitary.
- 4H. List TWO clinical features of cerebellar disease.
- 4I. Define stroke volume. Mention its normal value.
- 4J. Mention any TWO functions of skin.

(2×10 = 20 marks)



MANIPAL UNIVERSITY**FIRST YEAR B.P.T./B.O.T/ B.Sc. M.L.T./ B.Sc. N.M.T./ B.Sc. R.T./ B.Sc. M.I.T.
DEGREE EXAMINATION – MAY/JUNE 2012****SUBJECT: BIOCHEMISTRY**

Saturday, June 02, 2012

Time: 10.00-11.30 Hours

Max. Marks: 40

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

1. Discuss β -oxidation of palmitic acid under the following headings:

- 1A. Site and sub-cellular site
1B. Activation and transport
1C. Reactions

(1+3+4 = 8 marks)

2. Describe the complete digestion of carbohydrates in the GIT.

(6 marks)

3. **Answer the following:**

- 3A. Explain with diagrams the secondary structure of proteins.
3B. Define isoenzymes and explain the isoenzymes of LDH with its clinical significance.
3C. Write the reactions of the four key enzymes of gluconeogenesis.
3D. Discuss the RDA, sources and biochemical functions of vitamin D.

(4×4 = 16 marks)

4. **Answer the following:**

- 4A. Define steatorrhea and give its causes.
4B. Write a note on the regulation of glycolysis.
4C. Classify amino acids based on nutritional requirement with ONE example each.
4D. Define specific dynamic action of food and give values for the major macronutrients.
4E. Give normal serum levels of glucose in fasting and post-prandial states.

(2×5 = 10 marks)



MANIPAL UNIVERSITY

FIRST YEAR B.P.T. DEGREE EXAMINATION – MAY/JUNE 2012

SUBJECT: EXERCISE THERAPY – I
(NEW REGULATION)

Tuesday, June 05, 2012

Time: 10.00 – 13.00 Hours

Max. Marks: 80

☞ Answer ALL questions.

1. **Essay Questions.**

- 1A. Define lever. Discuss the different types of lever along with examples in human body. (2+8 = 10 marks)
- 1B. Define Goniometry. Explain the principles of clinical assessment of joint range of motion. (2+8 = 10 marks)

2. **Long answers.**

- 2A. Discuss different types of suspension therapy along with advantages of each. (5 marks)
- 2B. Explain the technique of diaphragmatic breathing exercise along with its merits. (5 marks)
- 2C. Discuss the principles of passive movements. (5 marks)
- 2D. Classify reflexes and the importance of reflex testing. (5 marks)
- 2E. Explain the procedure for measuring true and apparent limb length of lower limb. (5 marks)
- 2F. Explain any FIVE derived positions of standing with diagrams. (5 marks)
- 2G. Discuss the technique of chest expansion. Mention the indications for the same. (3+2 = 5 marks)
- 2H. Classify superficial sensations and explain the procedure for testing the same. (1+4 = 5 marks)

3. **Brief answers.**

- 3A. Mention any four demerits of hydrotherapy.
- 3B. Mention any four advantages of group exercise.
- 3C. What is stable equilibrium? Give one example.
- 3D. Mention any two contraindications of postural drainage.
- 3E. Classify pulleys.
- 3F. Define angle of pull.
- 3G. What is hooke's law?
- 3H. Mention the ranges of muscle work.
- 3I. Define inertia.
- 3J. What is bryant's triangle?

(2×10 = 20 marks)

