

MANIPAL UNIVERSITY
FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – AUGUST 2015

SUBJECT: ANATOMY
(NR/2011 BATCH)

Wednesday, August 26, 2015

Time: 10.00-13.00 Hours.

Max. Marks: 80

- ✍ **Answer the following questions.**
✍ **Draw diagrams wherever necessary.**

1. Explain the brachial plexus under the following headings:

- 1A. Formation, trunks, cords and branches
1B. Applied anatomy

(16+4 = 20 marks)

2. Describe the femoral triangle under:

- 2A. Boundaries and contents
2B. Add a note on femoral sheath, femoral canal and femoral ring
2C. Applied anatomy

(10+7+3 = 20 marks)

3. Write briefly on:

- 3A. Floor of fourth ventricle
3B. Corpus callosum
3C. Circle of Willis
3D. Cross section of medulla at the level of pyramidal decussation
3E. Cerebrum

(5 marks × 5 = 25 marks)

4. **Write short notes on:**

- 4A. Periosteum
4B. Clavipectoral fascia
4C. Pericardium
4D. Difference between small and large intestine
4E. Microscopic structure of cardiac muscle

(3 marks × 5 = 15 marks)



MANIPAL UNIVERSITY
FIRST YEAR B.P.T. DEGREE EXAMINATION – AUGUST 2015

SUBJECT: PHYSIOLOGY
(NEW REGULATION)

Thursday, August 27, 2015

Time: 10.00-13.00 Hrs.

Max. Marks: 80

✍ **Answer ALL questions.**

✍ **Draw diagrams and flow charts wherever appropriate.**

1. Define blood pressure. Give its normal value. Describe the short term regulation of blood pressure. List any two factors that influence blood pressure.
2. Name the ascending tracts in the central nervous system. With the help of a neat labeled diagram, explain any one tract in detail.

(10 marks × 2 = 20 marks)

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

- 3A. List the stages of erythropoiesis. Describe the role of any one factor which helps in regulation of erythropoiesis.
- 3B. Draw a labeled diagram of the nerve action potential. Give the ionic basis of it.
- 3C. List any four functions of hypothalamus and discuss in detail about any one function.
- 3D. Describe the micturition reflex.
- 3E. Draw a labeled diagram depicting the refractory errors, myopia and hypermetropia. In the same diagram, depict the correction lens for both errors.
- 3F. Name the respiratory chemoreceptors. Describe their role in regulation of respiration.
- 3G. Define deglutition. Explain the three stages of deglutition.
- 3H. List the hormones of posterior pituitary. Explain their actions.

(5 marks × 8 = 40 marks)

4. **Write brief answers for each of the following:**

- 4A. Name the types of smooth muscles and give one function of each.
- 4B. Mention any two differences between simple diffusion and active transport.
- 4C. Mention any two functions of lymph.
- 4D. List any two features of Parkinson's disease.
- 4E. Define stroke volume. Name any two factors affecting it.
- 4F. Mention any two functions of liver.
- 4G. Name one permanent method of contraception in males and females.
- 4H. Mention two differences between cortical and juxtamedullary nephron.
- 4I. Define hypoxia. Name any two types of hypoxia.
- 4J. Name the receptors for smell and taste sensations.

(2 marks × 10 = 20 marks)



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MANIPAL UNIVERSITY

FIRST YEAR BPT / BOT / B.Sc. MLT / B.Sc. RT / B.Sc. MIT / B.Sc. CVT /
B.Sc. RRT & DT DEGREE EXAMINATION – AUGUST 2015

SUBJECT: BIOCHEMISTRY

Friday, August 28, 2015

Time: 10.00 – 11.30 Hours

Max. Marks: 40

✍ Answer ALL the questions.

✍ Draw diagrams and flow charts wherever appropriate.

1. Explain the oxidation of acetyl CoA in the TCA cycle and add a note on its energetics.
(8 marks)
2. Give a detailed account of the process of emulsification and absorption of lipids in the intestine.
(6 marks)
3. Write short notes on the following:
 - 3A. Classification of lipoproteins based on density and their functions
 - 3B. Ketolysis and its significance
 - 3C. Basal metabolic rate
 - 3D. Differences between DNA and RNA(4 marks × 4 = 16 marks)
4. Write brief answers for the following:
 - 4A. Give the Henderson- Hasselbalch equation of bicarbonate buffer system with normal values of the components.
 - 4B. Give normal serum level of calcium and mention THREE hormones involved in its regulation.
 - 4C. Define essential amino acids with THREE examples.
 - 4D. Classify polysaccharides giving ONE example each.
 - 4E. Describe the effect of temperature on enzyme activity with a suitable graph.
(2 marks × 5 = 10 marks)



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MANIPAL UNIVERSITY
FIRST YEAR B.P.T. DEGREE EXAMINATION – AUGUST 2015
SUBJECT: EXERCISE THERAPY – I
(NEW REGULATION)

Saturday, August 29, 2015

Time: 10.00 – 13.00 Hours

Max. Marks: 80

✍ **Answer ALL the questions.**

1. Essay questions:

1A. What is an ideal gymnasium? Explain the various equipments in it. Describe the different types of resistance used in a therapeutic gymnasium.

(2+4+4 = 10 marks)

1B. Explain in detail the different vital signs.

(10 marks)

2. Short notes:

2A. Types of muscle work

2B. What is parallelogram of forces

2C. Cortical sensations

2D. Principles of relaxation

2E. Effects and uses of effleurage

2F. Principles of goniometry

2G. Types of reflexes

2H. Derived positions

(5 marks × 8 = 40 marks)

3. Short answers:

3A. Types of breath sounds

3B. Define equilibrium

3C. Define reflex arc

3D. Any 4 uses of passive movements

3E. Define massage

3F. Name the parts of a suspension unit

3G. Types of breathing exercises

3H. Define a bronchopulmonary segment

3I. What is postural tone?

3J. Define Line of Gravity

(2 marks × 10 = 20 marks)

