

## MANIPAL UNIVERSITY

FIRST YEAR B.P.T./B.O.T. DEGREE EXAMINATION – JUNE 2011

SUBJECT: ANATOMY

(COMMON FOR BOTH OLD &amp; NEW REGULATIONS)

Monday, June 06, 2011

Time: 10.00-13.00 Hours.

Max. Marks: 80

1. Explain the knee joint under the following headings:

- 1A. Type and subtype
- 1B. Articular surfaces
- 1C. Ligaments
- 1D. Movements and muscles producing each of the movements

(2+3+10+5 = 20 marks)

2. Explain the median 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. Third ventricle
- 3B. External features of spinal cord
- 3C. Internal capsule
- 3D. Circle of Willis
- 3E. Visual pathway

(5×5 = 25 marks)

4. Write short notes on:

- 4A. Fertilization
- 4B. Testis
- 4C. Bronchopulmonary segments
- 4D. Suprarenal gland
- 4E. Nasopharynx

(3×5 = 15 marks)



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## 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.R.T. DEGREE EXAMINATION – JUNE 2011

### SUBJECT: PHYSIOLOGY

Wednesday, June 08, 2011

Time: 10.00-13.00 Hours.

Max. Marks: 80

✍ **Answer all questions.**

1. Describe the stages of erythropoiesis. Add a note on regulation of erythropoiesis. (10 marks)
  
2. Mention any six functions of hypothalamus. Explain any two. (10 marks)
  
3. **Write short notes on the following:**
  - 3A. Describe the chemical regulation of respiration.
  - 3B. Draw a neat labelled diagram of the stretch reflex arc.
  - 3C. Describe the process of deglutition.
  - 3D. Enumerate the events of neuromuscular transmission.
  - 3E. Describe erythroblastosis fetalis.
  - 3F. Define glomerular filtration rate (GFR). Give its normal value. Describe the factors affecting GFR.
  - 3G. Mention the hormones of anterior pituitary. Describe the functions of any two.
  - 3H. Describe the functions of middle ear. (5×8 = 40 marks)
  
4. **Write brief answers to each of the following:**
  - 4A. Define the following terms:
    - i) Vital capacity
    - ii) Cyanosis
  - 4B. Mention two clinical features of cerebellar lesion
  - 4C. Name the hormones of ovaries. State one function of each.
  - 4D. What is myopia? How is it corrected?
  - 4E. List two uses of an electrocardiogram (ECG).
  - 4F. Draw a neat labelled diagram of a nephron.
  - 4G. Mention two differences between passive transport and active transport.
  - 4H. Name one permanent contraceptive method in males and females.
  - 4I. What is Cushing's syndrome? Mention two clinical features of this syndrome.
  - 4J. Give the average normal value for the following:
    - i) Hemoglobin concentration in adult males
    - ii) Cardiac output in adults(2×10 = 20 marks)



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DEGREE EXAMINATION – JUNE 2011**

**SUBJECT: BIOCHEMISTRY**

Friday, June 10, 2011

Time: 10.00-11.30 Hours

Max. Marks: 40

✍ **Answer ALL the questions.**

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

1. Write the reactions of synthesis of glucose from lactate.

(8 marks)

2. Write the reactions of urea cycle.

(6 marks)

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

3A. Structure of DNA.

3B. Activation of zymogens in the GIT.

3C. Mechanisms of glucose absorption in the small intestine.

3D. Biochemical functions and deficiency manifestations of vitamin D.

(4×4 = 16 marks)

4. **Write briefly on:**

4A. Basal metabolic rate.

4B. Inhibitors of electron transport chain.

4C. Dietary fibers.

4D. Transamination reaction.

4E. Emulsification of fats.

(2×5 = 10 marks)



**MANIPAL UNIVERSITY****FIRST YEAR B.P.T. DEGREE EXAMINATION – JUNE 2011****SUBJECT: EXERCISE THERAPY – I  
(NEW REGULATION)**

Monday, June 13, 2011

Time: 10.00-13.00 Hours

Max. Marks: 80

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

- 1A. Define postural drainage. Describe the method of postural drainage for the right upper lobe with diagrams. (2+8 = 10 marks)
- 1B. What are the principles of relaxed passive movements? Write its effects and uses. (5+5 = 10 marks)

**2. Short notes:**

- 2A. Classify normal breath sounds. Add a note on each.
- 2B. Explain five derived positions of standing with diagrams.
- 2C. Describe the types of reflexes. Mention the importance of reflex resting.
- 2D. Describe the inspiratory breathing exercises.
- 2E. Describe limb length measurement.
- 2F. Principles of suspension therapy.
- 2G. Describe the effects and uses of standing and sitting fundamental positions.
- 2H. What are the types and ranges of muscle work. (5×8 = 40 marks)

**3. Brief answers:**

- 3A. Describe line of gravity.
- 3B. Mention two advantages of group exercises.
- 3C. Example of a second order lever in human body.
- 3D. Describe the axis and plane in which the hip rotation occur.
- 3E. Mention two uses of hydrotherapy.
- 3F. Mention four cortical sensations.
- 3G. What is angle of pull of a muscle?
- 3H. Define wheeze.
- 3I. Mention the vital signs.
- 3J. What are the types of suspension?

(2×10 = 20 marks)

