

M. Sc. (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2006

PAPER I : GENERAL PHYSIOLOGY, NERVOUS SYSTEM INCLUDING SPECIAL SENSES AND MUSCLES

Monday, July 03, 2006

Time available: 3 Hours

Maximum Marks: 100

✍ **Answer all the questions.**

✍ **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**

1. Discuss in detail methods involved in the measurement of body fluid volumes. Add a note on the maintenance of tonicity of the ECF.

(20 marks)

2. Discuss in detail the connections and functions of the cerebellum. Add a note on signs and symptoms of cerebellar lesions.

(20 marks)

3. Discuss in detail the visual pathway. Add a note on the defects that would result when this pathway is interrupted at various levels.

(20 marks)

4. Explain briefly on:

4A. Strength duration curve.

4B. Excitation contraction coupling.

4C. Mass reflex.

4D. Functions of CSF.

(5×4 = 20 marks)

5. Explain briefly on:

5A. Field of vision and factors influencing it.

5B. Audiometry.

5C. Posterior nerve root sectioning.

5D. Primary taste sensations.

(5×4 = 20 marks)



M. Sc. (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2006

PAPER II: BLOOD AND BODY FLUIDS, CARDIOVASCULAR SYSTEM, RESPIRATORY SYSTEM, RENAL PHYSIOLOGY, SKIN AND TEMPERATURE REGULATION

Tuesday, July 04, 2006

Time available: 3 Hours

Maximum Marks: 100

✍ **Answer all the questions.**

✍ **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**

1. Discuss in detail the conducting system of the human heart and the applied aspects associated with it.

(20 marks)

2. Discuss in detail the transport of carbon dioxide from the site of production to the site of expulsion. Add a note on Haldane's effect.

(20 marks)

3. Discuss in detail the role of lymphocytes in immunity.

(20 marks)

4. Explain:

4A. Reabsorption of glucose from the renal tubules.

4B. Factors influencing gaseous exchange across the respiratory membrane.

4C. Atrial pressure tracing during a cardiac cycle.

4D. Clinical application of cardiac catheterization.

(5×4 = 20 marks)

5. Explain:

5A. Cystometrogram.

5B. Functions of platelets.

5C. Respiratory distress syndrome.

5D. Nervous regulation of peripheral resistance.

(5×4 = 20 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

M. Sc. (FINAL) PHYSIOLOGY DEGREE EXAMINATION – JULY 2006

PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION

Wednesday, July 05, 2006

Time available: 3 Hours

Maximum Marks: 100

✍ **Answer all the questions.**

✍ **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**

1. Discuss in detail the secretion and actions of parathormone. Add a note on latent and overt tetany.

(20 marks)

2. Discuss in detail the composition, functions and regulation of secretion of the bile juice.

(20 marks)

3. Discuss in detail the ovarian changes during a menstrual cycle. Add a note on the hormonal basis for the above changes.

(20 marks)

4. Write briefly on:

4A. Movements of the small intestine.

4B. Alarm reaction.

4C. Action of thyroxine on CVS.

4D. GTT.

(5×4 = 20 marks)

5. Write briefly on:

5A. Prolactin and its actions.

5B. Tests for ovulation.

5C. Cryptorchidism.

5D. Anabolic steroids.

(5×4 = 20 marks)



MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

M. Sc. (FINAL) PHYSIOLOGY DEGREE EXAMINATION – DECEMBER 2006

PAPER I : GENERAL PHYSIOLOGY, NERVOUS SYSTEM INCLUDING SPECIAL SENSES AND MUSCLES

Monday, December 04, 2006

Time available: 3 Hours

Maximum Marks: 100

✍ **Answer all the questions.**

✍ **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**

1. Briefly outline the role of ‘descending analgesia system’ in the modulation of pain. (20 marks)

2. Explain the regulation of muscle tone. (20 marks)

3. Describe the effects of complete transverse section of spinal cord. (20 marks)

4. Describe the otolith organs and their functions. (20 marks)

5. Explain how the following are brought about:
 - 5A. Discrimination of intensity and frequency of sound.
 - 5B. Colour perception. (20 marks)

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PAPER II: BLOOD AND BODY FLUIDS, CARDIOVASCULAR SYSTEM, RESPIRATORY SYSTEM, RENAL PHYSIOLOGY, SKIN AND TEMPERATURE REGULATION

Tuesday, December 05, 2006

Time available: 3 Hours

Maximum Marks: 100

Answer all the questions.

Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.

1. Describe the origin and spread of the cardiac impulse giving experimental evidences. (20 marks)

2. Explain:

2A. CNS Ischaemic response.

2B. How active skeletal muscles are supplied with more oxygen.

(10+10 = 20 marks)

3. Describe:

3A. Acclimatization to high attitude.

3B. Bohr effect.

(10+10 = 20 marks)

4. Discuss the applications of the clearance concept in the assessment of renal functions.

(20 marks)

5. Explain:

5A. Dilution principle in the estimation of body fluid compartments.

5B. Changes in stored blood.

(10+10 = 20 marks)



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M. Sc. (FINAL) PHYSIOLOGY DEGREE EXAMINATION – DECEMBER 2006

PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION

Wednesday, December 06, 2006

Time available: 3 Hours

Maximum Marks: 100

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- ✍ **Answer all the questions.**
✍ **Illustrate your answers with neatly drawn and correctly labelled diagrams wherever appropriate.**

1. List all the functions of liver and describe the functions and regulation of secretion of bile.
(20 marks)

2. Discuss the role played by different hormones on physiology of growth.
(20 marks)

3. Explain the process of menstrual cycle in human beings.
(20 marks)

4. Highlight the actions of different hormones of pituitary gland. Add a note on the pituitary disorders.
(20 marks)

5. Briefly explain:
 - 5A. Thyroid function tests.
 - 5B. Cretinism.
 - 5C. Neuroendocrine reflex.
 - 5D. Gastric emptying time.

(5×4 = 20 marks)