

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – JULY 2005**SUBJECT: PAPER I: GENERAL PHYSIOLOGY, NERVOUS SYSTEM, SPECIAL SENSES**

Monday, July 04, 2005

Time: 3 Hrs.

Max. Marks: 100

✍ **Answer all the questions. All questions carry equal marks.**

✍ **Draw neat and labelled diagrams wherever necessary.**

1. Explain the various mechanisms involved in maintenance of acid-base balance of the body fluids.

(20 marks)

2. Discuss the neurophysiology of vestibular apparatus. Write note on nystagmus.

(20 marks)

3. Write briefly on

3A. Memory.

3B. Speech.

(10+10 = 20 marks)

4. Discuss the factors affecting the development of tension in the skeletal muscle.

(20 marks)

5. Describe the Photochemistry of vision. Discuss the visual pathway.

(20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

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MD (PHYSIOLOGY) DEGREE EXAMINATION – JULY 2005

**SUBJECT: PAPER II: CARDIOVASCULAR & RESPIRATORY SYSTEM,
RENAL PHYSIOLOGY AND BLOOD**

Tuesday, July 05, 2005

Time: 3 Hrs.

Max. Marks: 100

~~✍~~ **Answer all the questions.**

~~✍~~ **Draw neat and labelled diagrams wherever necessary.**

1. Discuss in detail the mechanism of concentration of urine in the kidney.
(20 marks)
2. Describe the mechanism of Oxygen transport in detail with special reference to oxygen dissociation curve.
(20 marks)
3. Discuss the mechanism of haemostasis in detail. Add a note on bleeding disorders.
(20 marks)
4. Explain the normal ECG in detail. Add a note on cardiac arrhythmias.
(20 marks)
5. Discuss the regulation of blood pressure in detail. Add a note on hypertension.
(20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

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MD (PHYSIOLOGY) DEGREE EXAMINATION – JULY 2005

SUBJECT: PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION

Wednesday, July 06, 2005

Time: 3 Hrs.

Max. Marks: 100

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- ✍ Answer all the questions
 - ✍ All questions carry equal marks

1. Discuss physiology of Growth in various stages of life.

2. Describe how salivary and gastric secretions are regulated when varying kinds of food are ingested.

3. Describe the role of placenta in foetal developmental processes.

4. Write briefly on the following:
 - 4A. Absorption in small intestine.
 - 4B. Calcitonin.
 - 4C. Impotence and infertility.
 - 4D. Endocrine functions of placenta.

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MANIPAL ACADEMY OF HIGHER EDUCATION

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MD (PHYSIOLOGY) DEGREE EXAMINATION – JULY 2005

SUBJECT: PAPER IV: RECENT ADVANCES IN PHYSIOLOGY, APPLIED AND CLINICAL PHYSIOLOGY

Thursday, July 07, 2005

Time: 3 Hrs.

Max. Marks: 100

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- ✍ Answer all the questions. All questions carry equal marks.**
 - ✍ Write answers that are brief, clear, relevant and legible.**
 - ✍ Illustrate your answers with neatly drawn and correctly labeled diagrams wherever appropriate.**

1. Discuss patho-physiology of Hypovolemic shock.

2. Discuss the concept of clearance and its application in renal physiology.

3. Describe Haemostasis and disorders related to that.

4. Write briefly on the following:
 - 4A. Spasticity.
 - 4B. “Shift to the right” in physiological parameters.



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MANIPAL ACADEMY OF HIGHER EDUCATION

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MD (PHYSIOLOGY) DEGREE EXAMINATION – DECEMBER 2005

SUBJECT: PAPER I: GENERAL PHYSIOLOGY, NERVOUS SYSTEM, SPECIAL SENSES

Monday, December 05, 2005

Time: 3 Hrs.

Max. Marks: 100

✍ **Answer all the questions. All questions carry equal marks.**

✍ **Draw neat and labelled diagrams wherever necessary.**

1. Discuss how the different fluid compartments of the body are estimated.
2. Describe the cortical control of voluntary movement. Add a note on “Crossed” and “Uncrossed” hemiplegia.
3. Discuss the neuroendocrine functions of the hypothalamus.
4. Describe the dioptric mechanism of the eye. Enumerate different refractive errors and method of their corrections.
5. Describe the modern concept of “Nerve Action Potential”.

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MD (PHYSIOLOGY) DEGREE EXAMINATION – DECEMBER 2005

SUBJECT: PAPER II: CARDIOVASCULAR & RESPIRATORY SYSTEM, RENAL PHYSIOLOGY AND BLOOD

Tuesday, December 06, 2005

Time: 3 Hrs.

Max. Marks: 100

✗ Answer all the questions.

✗ Draw neat and labelled diagrams wherever necessary.

1. Explain the dynamics of glomerular filtration. Add a note on method of determination GFR.
(20 marks)

2. Explain the types and effects of hypoxia.
(20 marks)

3. Discuss the regulation of cardiac output.
(20 marks)

4. Explain the physiological functions and properties of different plasma proteins.
(20 marks)

5. Write briefly on:
 - 5A. Functions of platelets.
 - 5B. ECG changes in myocardial infarction.
 - 5C. Laminar and turbulent blood flow.
 - 5D. Sodium reabsorption in renal tubules.

(5×4 = 20 marks)

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MD (PHYSIOLOGY) DEGREE EXAMINATION – DECEMBER 2005

SUBJECT: PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION

Wednesday, December 07, 2005

Time: 3 Hrs.

Max. Marks: 100

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- ✍ **Answer all the questions**
 - ✍ **All questions carry equal marks**

1. Explain the role of hormones in coping with stress.
2. Describe the functions of the gall bladder and the processes that regulate the passage of bile into the intestinal lumen.
3. Compare the actions of growth hormone and IGF-I.
4. Write briefly on:
 - 4A. Role of hormones in parturition.
 - 4B. Features of menopause, its basis and treatment.
5. Write briefly on:
 - 5A. Pheochromocytoma.
 - 5B. Functions of Sertoli cells.



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MD (PHYSIOLOGY) DEGREE EXAMINATION – DECEMBER 2005**SUBJECT: PAPER IV: RECENT ADVANCES IN PHYSIOLOGY, APPLIED AND
CLINICAL PHYSIOLOGY**

Thursday, December 08, 2005

Time: 3 Hrs.

Max. Marks: 100

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- ✍ **Answer all the questions. All questions carry equal marks.**
 - ✍ **Write answers that are brief, clear, relevant and legible.**
 - ✍ **Illustrate your answers with neatly drawn and correctly labeled diagrams wherever appropriate.**

1. Discuss in detail the bile pigment metabolism. Add a note on the tests available to differentiate the different types of jaundice.
2. Discuss in detail the signs and symptoms of hypovolaemic shock. Explain the physiological basis for the above signs and symptoms. Add a note on the principle involved in the treatment of the above shock.
3. Discuss in detail the role played by the kidney in the regulation of body pH.
4. Write briefly on:
 - 4A. Ventilation perfusion ratio.
 - 4B. Hyperbaric oxygen administration.
 - 4C. Caisson's disease.
 - 4D. Foetal circulation and the changes that would occur at birth.
5. Discuss in detail the experimental methods available to study cerebral cortical function.

