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MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – JULY 2006

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

Monday, July 03, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ Answer all the questions.

✍ Draw neat and labelled diagrams wherever necessary.

1. Discuss in detail the connections and functions of the basal ganglia. Add a note on Parkinsonism.

(15+5 = 20 marks)

2. Discuss in detail the pain pathways. Add a note on referred pain.

(15+5 = 20 marks)

3. Draw a diagram to show the structures involved in the formation of sclero-corneal junction. Discuss in detail the formation, circulation and functions of aqueous humour.

(20 marks)

4. Discuss in detail the theories of hearing.

(20 marks)

5. Briefly explain:

5A. Wallerian degeneration.

5B. Energetics of muscle contraction.

(10+10 = 20 marks)

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – JULY 2006**SUBJECT: PAPER II: CARDIOVASCULAR & RESPIRATORY SYSTEM,
RENAL PHYSIOLOGY AND BLOOD**

Tuesday, July 04, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ Answer all the questions.**✍ Draw neat and labelled diagrams wherever necessary.**

1. With experimental evidences discuss in detail the nervous regulation of respiration.
(20 marks)
2. Discuss in detail the factors influencing coronary blood flow.
(20 marks)
3. Discuss in detail the counter current mechanisms operating in the kidney.
(20 marks)
4. Discuss in detail the indications and dangers of blood transfusion.
(20 marks)
5. Briefly explain:
 - 5A. Plasmapheresis.
 - 5B. Nerve supply to blood vessels.
 - 5C. Haldanes effect.
 - 5D. Cystometrogram.
(20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – JULY 2006

SUBJECT: PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION

Wednesday, July 05, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ **Answer all the questions**

1. Discuss in detail the biosynthesis of thyroxine. Add a note on antithyroid drugs and the mechanism of their action.

(20 marks)
2. Discuss in detail the ovarian changes during a menstrual cycle. Discuss the hormonal basis for the same.

(20 marks)
3. Discuss in detail the mechanism of gastric emptying and the factors influencing it.

(20 marks)
4. Write briefly on:
 - 4A. Regulation of anterior pituitary hormone secretion.
 - 4B. Somatostatin.

(20 marks)
5. Explain briefly on:
 - 5A. Peripheral utilisation of glucose and the hormones influencing it.
 - 5B. Endocrine functions of the placenta.

(20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – JULY 2006

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

Thursday, July 06, 2006

Time: 3 Hrs.

Max. Marks: 100

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- ✍ **Answer all the questions.**
 - ✍ **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 methods available to study renal tubular functions.
(20 marks)

2. Explain the tests available to differentiate between the different types of jaundice.
(20 marks)

3. Discuss in detail cardiac catheterization and its application.
(20 marks)

4. Discuss in detail the mechanism of vomiting. Add a note on antiemetics.
(20 marks)

5. Briefly explain:
 - 5A. Audibility curve.
 - 5B. Radial pulse

(10+10 = 20 marks)

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – DECEMBER 2006**SUBJECT: PAPER I: GENERAL PHYSIOLOGY, NERVOUS SYSTEM, SPECIAL SENSES**

Monday, December 04, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ Answer all the questions.**✍ Draw neat and labelled diagrams wherever necessary.**

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

(15+5 = 20 marks)

2. Discuss in detail the effects of a complete transverse section of the spinal cord at T1 level.

(20 marks)

3. Discuss in detail the functions of the middle ear.

(20 marks)

4. Explain:

4A. Functions of the pupil.

4B. Neural processing in retina.

(10+10 = 20 marks)

5. Explain:

5A. Strength – duration curve.

5B. Muscle fatigue.

(10+10 = 20 marks)

MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – DECEMBER 2006**SUBJECT: PAPER II: CARDIOVASCULAR & RESPIRATORY SYSTEM,
RENAL PHYSIOLOGY AND BLOOD**

Tuesday, December 05, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ **Answer all the questions.**

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

1. With experimental evidences discuss in detail the neural regulation of arterial blood pressure.
(20 marks)

2. Discuss in detail the mechanics of respiration.
(20 marks)

3. With experimental evidences discuss in detail the functions of the renal tubules.
(20 marks)

4. Discuss in detail the functions of lymphocytes.
(20 marks)

5. Write briefly on:
 - 5A. Clearance value of a substance and its importance
 - 5B. Right intraventricular pressure curve
 - 5C. Fluid shift mechanism in the regulation of blood volume.
(20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – DECEMBER 2006

SUBJECT: PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION

Wednesday, December 06, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ **Answer all the questions**

1. Discuss in detail the regulation of blood calcium level.
(20 marks)

2. Discuss in detail the functions of the testes. Add a note on how these functions are regulated.
(20marks)

3. Discuss in detail the various methods available to study the secretion, absorption and motility of the gastrointestinal tract.
(20 marks)

4. Explain:
 - 4A. Regulation of aldosterone secretion.
 - 4B. Second messengers.(20 marks)

5. Explain:
 - 5A. Somatomedins.
 - 5B. Metabolic actions of cortisol.(20 marks)

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MANIPAL ACADEMY OF HIGHER EDUCATION

(Deemed University)

MD (PHYSIOLOGY) DEGREE EXAMINATION – DECEMBER 2006

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

Thursday, December 07, 2006

Time: 3 Hrs.

Max. Marks: 100

✍ Answer all the questions.

1. Discuss in detail the different types of 'Shock'. Explain the pathogenesis of 'irreversible shock'.
(20 marks)
2. Discuss in detail respiratory function tests.
(20 marks)
3. Discuss in detail the "gate control" theory in pain perception. Add a note on various pain relieving techniques.
(20 marks)
4. Discuss in detail various methods used to produce experimental hypertension.
(20 marks)
5. Write briefly on:
 - 5A. EMG.
 - 5B. Reaction of degeneration.
(10+10=20 marks)

