

MANIPAL UNIVERSITY

M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – FEBRUARY 2014

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

Monday, February 03, 2014

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

✍ **Answer ALL the questions.**

✍ **Illustrate your answer with neatly drawn and correctly labeled diagrams wherever appropriate.**

1. What is synapse? Explain the structure, functions and properties of synapse.
2. Explain different parts of cerebellum. Enumerate the functions of cerebellum. Write a note on cerebellar lesion.
3. Describe the limbic system and its functions. Write a note on Kluver- Bucy syndrome.
4. What is cerebrospinal fluid? Name the sites of formation, circulation, drainage and functions of cerebrospinal fluid. Add a note on lumbar puncture.

(20×4 = 80 marks)

5. **Write short notes on:**

- 5A. Ionic basis of action potential in an axon.
- 5B. Excitation contraction coupling in skeletal muscle.
- 5C. Color vision and color blindness.
- 5D. Organ of corti.

(5×4 = 20 marks)



MANIPAL UNIVERSITY**M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – FEBRUARY 2014****PAPER II: CARDIOVASCULAR PHYSIOLOGY, RESPIRATORY SYSTEM, RENAL PHYSIOLOGY AND BLOOD**

Tuesday, February 04, 2014

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

✍ **Answer all the questions.**

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

1. Describe the events in left ventricle during cardiac cycle.
2. Describe the feedback regulation of respiration.
3. Explain the role of counter-current mechanism in kidney function.

(20×3 = 60 marks)

4. Describe the features and regulation of:

- 4A. Coronary blood flow
- 4B. Cerebral blood flow

(10+10 = 20 marks)

5. Write short notes on:

- 5A. Fibrinolytic system
- 5B. Rh system
- 5C. Humoral immunity
- 5D. ESR

(5×4 = 20 marks)



MANIPAL UNIVERSITY**M.Sc. MEDICAL (FINAL) PHYSIOLOGY DEGREE EXAMINATION – FEBRUARY 2014****PAPER III: GASTROINTESTINAL TRACT, ENDOCRINOLOGY AND REPRODUCTION**

Wednesday, February 05, 2014

Time: 14:00 – 17:00 Hrs.

Maximum Marks: 100

- ✍ **Answer all the questions. All questions carry equal marks.**
- ✍ **Illustrate answers with neatly drawn and correctly labeled diagrams wherever appropriate.**

1. Describe the actions of insulin. Discuss in detail the biochemical consequences of diabetes mellitus.
2. Name the location of various salivary glands. Discuss the mechanism of secretion of saliva and the regulation of its secretion.

(20×2 = 40 marks)

3. Write briefly on:

- 3A. Intra uterine contraceptive device (IUCD)
- 3B. Role of sertoli cells

(10+10 = 20 marks)

4. Explain the features of:

- 4A. Cushing's syndrome
- 4B. Cretinism

(10+10 = 20 marks)

5. Write briefly on:

- 5A. Role of ovarian hormones
- 5B. Secretin

(10+10 = 20 marks)

