**PRACTICAL LESSON 4**

**REGULATION OF SODIUM AND WATER BALANCE**

**Content of the lesson:**

1. Written control.

2. Recitation.

3. Decision of situation tasks.

**QUESTIONS FOR PREPARATION FOR THE LESSON:**

1. Functions of the water and distribution of water in the body.
2. Electrolyte composition of body fluids.
3. Regulation of electrolyte balance. Aldosterone. Metabolic effects.
4. Hyperaldosteronism.
5. ADH. Biosynthesis of ADH scheme. Metabolic effects of ADH.
6. Deficiency of ADH.
7. Renin- angiotensin- aldosterone system. Metabolic effects of angiotensin II.
8. Atrial natriuretic peptide. Metabolic effects.
9. Guanylate- cyclase system.
10. Biological significance of NO.

**QUESTIONS FOR WRITTEN CONTROL:**

See Questions for preparation for the lesson (1-10)

**RECOMMENDED BIBLIOGRAPHY**

a) Compulsory:

1. Lectures.

2. DM Vasudevan, Sreekumari S, Kannan Vaidyanathan. (2014) Textbook of biochemistry for medical students.7th edn. Jaypee Brothers Medical Publishers (P) Ltd.

3. Robert K. Murray, David A Bender, Kathleen M. Botham, Peter J. Kennelly, Victor W. Rodwell, P. Anthony Weil. (2009) Harper's Illustrated Biochemistry. 28th edn. The McGraw-Hill Companies, Inc.

b) Supplementary:

1. Janice Gorzynski Smith. (2012) Principles of general, organic, and biological chemistry. The McGraw-Hill Companies, Inc.

2. Laurence A. Moran, H. Robert Horton, K. Gray Scrimgeour, Marc D. Perry. (2012) Principles of Biochemistry. Pearson Education, Inc.

3. Lehninger A., David L. Nelson, Michael M. Cox. (2008) Lehninger Principles of Biochemistry. 5th edn. W.H.Freeman and company, New York.

4. Mary K. Campbell, Shawn O. Farrell Biochemistry. (2012) Biochemistry. 7th edn. Brooks/Cole, Cengage Learning.

5. Pamela C. Champe, Richard A. Harvey, Denise R. Ferrier. (2004) Lippincott’s Illustrated Reviews: Biochemistry. Lippincott Williams & Wilkins

6. Reginald H. Garrett, Charles M. Grisham. (2010) Biochemistry. Brooks/Cole, Cengage Learning.