

Maharashtra Shikshan Samiti,
Maharashtra Mahavidyalaya, Nilanga
Academic Year 2022-23
Department of ZOOLOGY
Add On / Certificate Course Syllabus

Title: URINOLOGY

Duration : 30 Hrs.

Marks : 50

Course Objectives :

1. Understanding structure and function of human urinary system.
2. Learning about formation and composition of urine.
3. Appreciate importance of urine composition in detecting disease.
4. Instill skill to perform basic urinary system function tests.
5. Develop ability to handle and process urine samples.

Course Outcomes :

1. Ability to describe function of human urinary system.
2. Skill to collect, preserve, process and store urine samples.
3. Skill to perform physical, chemical and microscopic examination of urine samples.
4. Ability to document findings of urine examination/analysis.

Course Content

Module I :

(10 Hours)

1. Definition, Structure and Functions of Urinary System, Physiology of Mechanism of Urine formation.
2. Constituents and composition of Urine
 - i) Normal constituents and abnormal constituents of Urine.
 - ii) Qualitative tests for sugar, albumin, ketone bodies, bile salts and bile pigments.

Module II :**(10 Hours)**

1. Renal Function Tests

- i. Definition, importance of tests like urea, creatinine, uric acid, proteins
- ii. Importance of Dialysis.

2. Collection and preservation of Urine Sample

- i. Physical and Chemical Examinations of abnormal constituents.
- ii. Microscopic Examination of urine.
- iii. Preparation of Urine Report.

Module III :**(5 Hours)**

1. Practical – Study of principle and procedure of renal function test in human.
2. Practical – Study of normal and abnormal constituents of Urine.

Module IV :**(5 Hours)**

3. Practical- Biochemical Qualitative and Quantitative tests for urine from normal and diabetic persons.
4. Practical- Study of Microscopic Examination of urine.

Prescribed Text Books / Recommended Books :

1. Medical Laboratory Technology – Ramnik Sood.
2. Medical Lab Technology Vol. I, II & III – Kanai Mukherjee
3. Hand Book of Medical Technology- Mrs. Chitra
4. Medical Laboratory Technology – A. Ananthanarayan
5. Manual for Laboratory Techniiian of Primary Health by Minister of Health.
6. Human Physiology Vol. I & II – C. C. Chatterjee

Scheme of Evaluation

Q.1. Multiple Choice Question - 25

Credit – 1 (25 points)

Q.2. Practical Test

Credit – 1 (25 points)

Presentation / Group Discussion / Oral Test

1. Presentation.

2. Oral Test.

Credits – 2 (50 points)