

E.M.G.YADAVA WOMEN'S COLLEGE, MADURAI-14.

(An Autonomous Institution - Affiliated to Madurai Kamaraj University)

(Re-accredited with 'A' Grade by NAAC)

CBCS

DEPARTMENT OF ZOOLOGY

CERTIFICATE COURSE

HUMAN SYSTEMS AND CLINICAL CHEMISTRY

Course structure

(w.e.f. 2018-2019 Onwards)

Duration: 90 hrs

| S.NO. | SUBJECT CODE | TITLE OF THE PAPER | EXAM DURATION (Hrs) | MAXIMUM MARKS |
|--------------|-------------------------|---|------------------------------------|--------------------------|
| 1. | 19ZC1 | THEORY: Human Systems and Clinical Chemistry | 3 | 100 |
| 2. | 19ZCP | PRACTICAL: Lab in Human Systems And Clinical Chemistry | 3 | 100 |

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(w.e.f 2018-2019 onwards)

Title of the Paper : Human Systems and Clinical Chemistry

Semester : III & IV

Contact hours :90hrs

Sub-code : 19ZC1

Objective:

- 1.To familiarize the students about the detailed structure and physiological functions of various systems
2. To familiarize the students about the Normal chemical constituents of the Human body.

Unit- I Introduction to Human Anatomy: Cutaneous , Digestive, Respiratory system.

Unit- II Structure and Functions : Circulatory, Excretory, Endocrine(Thyroid and Pancreas) and Reproductive systems.

Unit – III Reproductive cycle:-Menstrual cycle,Birth control methods, IUO.

Unit – IV Blood Analysis – collection and preservation of blood, Estimation of Blood Sugar, Blood urea, Lipid profile.

Unit – V Urine Analysis: –urine colour,odour.pH, sugar, Albumin, Ketone bodies, bilesalts, and bile pigments.

Text Books:

1. Arumugam, N. *Animal Physiology* , Saras Publications, 2012.
2. Ambiga Shanmugam, *Biochemistry*, Lippincott Williams & Wilkins, 2013 .

Reference Books:

1. Balwin Ernest - *An Introduction to Comparative Bio - Chemistry* , Cambridge University Press,1964.
2. Philip.H.Mitchel- *A Text book of General Physiology*, McGraw hill Company inc.Newyork ,Toronto. London. Cat.log.No.55-9548,1957.

3. Rastogi. S.C., *Essentials of Animal Physiology* –Wiley Eastern Ltd,2007
4. Robert, K. Murray Daryl. K. Granner. Harper's *Biochemistry*, Peter A. Mayes & Victor W. Rodwell prentice –Hall International, 2003.
5. Hoar, S. William , *General Comparative Physiology* - Printice Hall of India Pvt. Ltd. New Delhi, ISBN-0-87692-337-6.1975.

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Title of the Paper : Lab in Human Systems and Clinical Chemistry
Semester : III & IV **Contact hours: 90hrs**
Sub-code : 19ZCP

List of Experiments

1. Human Organ Models– Heart, Kidney,Liver,Lungs, Mammary gland, Ovary and Uterus.
2. Human Parasites- *Ascaris lumbricoides*, *Taenia solium*, *Enterobius vermicularis*, *Wucheria bancroftii*.
3. Qualitative determination of Blood Sugar (Benedict's test & Fehling'test)
4. Estimation of Blood Pressure
5. Estimation of Haemoglobin
6. Blood Grouping
7. Analysis of Urine sugar
8. Qualitative analysis of Ketone bodies
9. Estimation of Erythrocyte Sedimentation Coefficient.
10. Haemocytometer-Demonstration only (RBC and WBC counting).