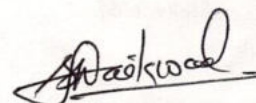


Career Oriented Certificate Course**Department of Zoology****Dr Annasaheb G D Bendale Mahila Mahavidyalaya, Jalgaon****(With effect from October 2021)****CERTIFICATE COURSE IN LAB TECHNIAN (CLT)**

Course	Paper Title and code	Hours/ Course	Marks		Total
			Internal	External	
CLT	HISTOLOGY, HAEMATOLOGY PHYSIOLOGY and LABORATORY SAFETY	10	10	15	25
	GENERAL LABORATORY TECHNIQUES, BASIC HAEMATOLOGY AND INSTRUMENTATION	20	30	45	75

Course Coordinator: - Dr. Sujata Gaikwad

CERTIFICATE COURSE IN LAB TECHNIAN (CLT)

Syllabus

Paper – I (Theory) HISTOLOGY, HAEMATOLOGY PHYSIOLOGY and LABORATORY SAFTY (10 Periods)

Objectives:

1. To promote an integrated approach to the study of various organs with their functions in man.
2. To obtain a holistic knowledge of haematology parameters, Laboratory instruments and Lab safety.

Programme Outcomes:

After completing Laboratory Technology course, the graduate should be able to

- a) Work efficiently in medical laboratories
- b) Work under different specialties of Laboratory Medicine (Biochemistry, Microbiology, Pathology and Blood bank departments respectively) program
- c) Obtain a holistic knowledge of hematology parameters, Laboratory instruments and Lab safety.

1. HISTOLOGY & ENDOCRINOLOGY: Cell, tissue, organs and organ system, Hormones - Pituitary, thyroid, parathyroid, adrenal glands and gonads.

2. BLOOD: Collection of blood (Venous and Capillary) Preservation of blood – Importance of blood bank, anticoagulants used in blood bank - ABO Blood grouping, Rh typing - Blood transfusion

3. COMPONENTS OF BLOOD: Total RBC count – Total leucocytes count - Differential count – Haemoglobin estimation, ESR, PCV - Bleeding and clotting time - Platelet count - Coagulation of blood - Importance of blood clotting - Factors involved in blood clotting.

4. LABORATORY TECHNOLOGY: Introduction and scope - Rules and regulations followed in Lab – maintenance of Records, samples and their

collecting methods – Role of Anticoagulants and its types - Basic Instrumentation – pH meter, Autoclave, Incubator, Calorimeter, Refrigerator, BP apparatus – principles and working methodology.

5. LABORATORY BIO SAFETY PROCEDURES: First Aid - Handling of infectious materials - Classification and Morphology of bacteria - Disinfection and sterilization

Text book:

1. Medical Laboratory Technology, Procedure manual for routine diagnostic tests by Kani L Mukherjee and Swarajit Ghosh. 2nd Edition (Volume I - III) Mc Graw Hill Publ.(2010).

Books for Reference:

1. Manual for Medical Laboratory Technology by S. Raja, Anjana book house Chennai.
2. Text Book of Preventive and Social Medicine by K. Park, M/s Banarsidas Bhanot (Publishers), 1167, Prem Nagar, Jabalpur – 482001, India, 2009.
3. Text Book of Pathology by C.K. Shiha and Kr. Pankaj, Vijay Bhagat, Scientific Book Company, Ashok Rajpath, Patna – 800004, 2005.
4. Text Book of Anatomy, Physiology and Health Education by N. Kumar, A.I.T.B.S. Publishers, J- 5/6, Krishan Nagar, Delhi – 110 051, India, 2009.

Paper II (Practical) -GENERAL LABORATORY TECHNIQUES, BASIC HAEMATOLOGY AND INSTRUMENTATION -20Periods

Objectives:

1. To understand the application of laboratory and Diagnostic Medical Instruments and to study different parameters of Human Blood.
2. To develop skill in handling clinical laboratory equipments.
3. To collect and prepare the sample
4. To counsel and screen the Donors and prepare the blood components

Experiments

1. Identification of blood groups.
2. Identification of RBC, WBC and platelets
3. Hb estimation
4. RBC total count
5. WBC total count
6. WBC differential count
7. ESR estimation
7. PCV estimation

8. Clotting time/ bleeding time
9. Measurement of Blood pressure with the help of Sphygmomanometer
10. Hanging drop preparation
11. Instrumentation- pH meter, Autoclave, Incubator, Calorimeter,
Refrigerator, BP apparatus
12. Normal Constituents of Urine
13. Abnormal Constituents of Urine
14. Estimation of Blood glucose level.



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