R. J. COLLEGE of Arts, Science & Commerce (AUTONOMOUS)

(Hindi Vidya Prachar Samiti's RAMNIRANJAN JHUNJHUNWALA COLLEGE of Arts, Science & Commerce)
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Affiliated to UNIVERSITY OF MUMBAI || NAAC Re-Accredited 'A' Grade (CGPA: 3.50)

Department of Biotechnology

On Job Training Completion Report

This is to certify that Ms. Manita R. Yadav has completed On Job Training at

Universal diagnostic Centre

Date of Commencement	Date of Completion	Total Number of Days	Total Number of Hours completed in OJT
01/01/24	31/01/24	31 days	93 hours.

Name of the Guide/ PI/ Incharge : Ms. Preeti R. Jaiswar

Phone Number of Guide/ PI/ Incharge : 8898081494

Email Address of the Guide/ PI/ Incharge : udcpath@gmail.com

Ramniranjan Jhunjhunwala College NAAC Re-Accredited "A" Grade Mumbai-86

Gupta 22-03-24

Signature of Guide/ PI/ Incharge

UNIVERSAL DIAGNOSTIC CENTRE

Stamp

UNIVERSAL DIAGNOSTIC CENTRE

S3/57 Vedant Complex, Pokharan Road No.1, Vartak Nagar, Thane (W) 400 606.
Contact No. : 022 4748 8444. Email: udcpath@gmail.com

CERTIFICATE

TO WHOM SO EVER IT MAY CONCERN

This is to certify that **MS. MANITA RAMPRASAD YADAV**

Worked as Trainee In **UNIVERSAL DIAGNOSTIC CENTRE AT (VARTAK NAGAR THANE)**

from 01 JAN 2024 To 31 JAN 2024. with our entire satisfaction.

During his working period we found him as a sincere, honest hardworking, dedicated employee with professional attitude and very good job knowledge.

We wish him every success in life

UNIVERSAL DIAGNOSTIC CENTRE

Date-02/02/2024

Signature

Manita Kamprasad Yadav
Roll no : 411

ON JOB TRAINING REPORT

Manita Ramprasad Yadav

UNIVERSAL DIAGNOSTIC CENTRE

- **Address**

S3/ 57 vedant complex , Pokharan Road no. 1 , Vartak Nagar, Thane (w) 400 606 .

- **Contact number**

02247488444

- **Email**:

udcpath@gmail.com

Summary Of Training Report

This report describes a brief of the work that has been carried out by me in the laboratory during training at Universal Diagnostic Centre. I have been working in laboratory during my training period from 1st jan, 2024 to 31st Jan,2024 .

In pathology lab,I have learn how to operate a semi- automated and automatic analyser instruments.

DESCRIPTION OF THE PATHOLOGY LABORATORY

- The pathology laboratory is a vital component of the healthcare system, specializing in the analysis of bodily fluids, tissues, and cells to aid in the diagnosis, , and treatment of diseases.
- It is equipped with state-of-the-art instruments and manned by skilled pathologists, technicians, and support staff.

HEMATOLOGY

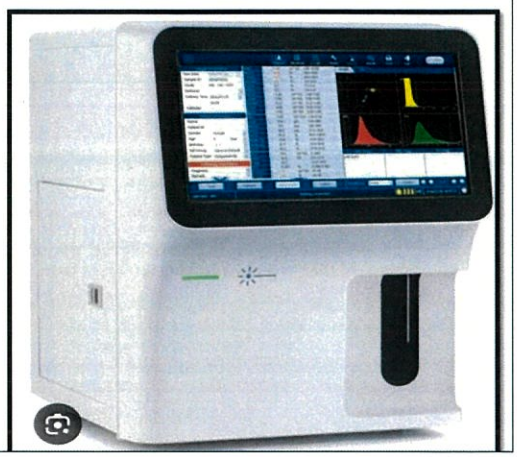
• Introduction

Hematology is the study of blood and blood disorders. Hematological tests can help diagnose anemia, infection, hemophilia, blood-clotting disorders, and leukemia.

1. Analysis blood concentration, structure And function of the cell.

• Name of the test

1. White blood cell count (WBC)
2. Red blood cell count (RBC)
3. Platelet count.
4. Hematocrit red blood cell volume (HCT)
5. Hemoglobin concentration (HB)



SUGAR (GLUCOSE) TEST (BENEDICT'S QUALITATIVE TEST

• Principle

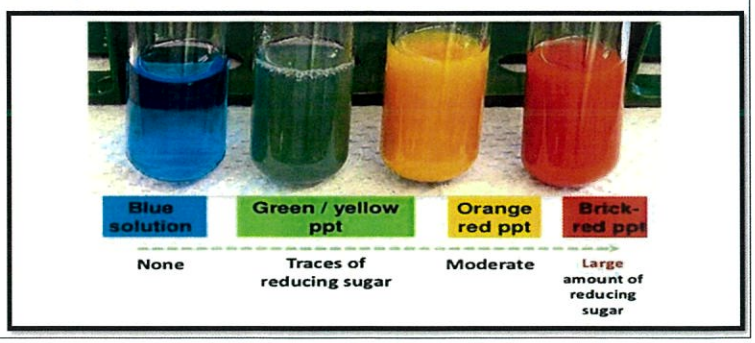
When reducing sugars are present in the analyze, the cupric ions (Cu^{2+}) in Benedict's reagent are reduced to cuprous ions (Cu^{+}). These cuprous ions form copper(I) oxide with the reaction mixture and precipitate out as a brick-red coloured compound.

• Procedure

1. Take 5 ml of Benedict's reagent in test tube
2. Add 8 drop of Urine
3. Boil for a 2 mins and Allow cooling Under tap water

Observation and results

- Blue clear - negative
- Green ,no ppt- trace
- Green with ppt - +
- Brown with cloudy - ++
- Orange with cloudy - +++
- Red with cloudy - ++++



WIDAL TEST

- A Widal test is a quick procedure to diagnose typhoid fever or enteric fever. It only requires a patient's serum and some reagents to detect this fever. However, because different factors can influence the test results, it is always best to perform this test one week after the infection, following proper instructions

SGOT AND SGPT TEST

- SGOT (Serum glutamic oxaloacetic transaminase) and SGPT (Serum glutamate pyruvate transaminase) are two of the most common enzymes produced by the liver. SGPT test, or Serum Glutamic Pyruvic Transaminase, is a blood test that can be used to detect any liver problems.

Normal range

- ALT (SGPT) = 7-56 units/liter of serum
- AST (SGOT) = 5-40 units/liter of serum

Instruments

My OJT at the pathology laboratory provided me with invaluable hands-on experience and insights into the field of diagnostic medicine. It equipped me with the necessary skills, knowledge, and competencies to pursue a career in healthcare with confidence and enthusiasm.

Manita Ramprasad Yadav
Roll no :- 411

HANDS ON TRAINING ON KARYOTYPING

Manita Ramprasad Yadav

Student,

(Ramniranjan jhunjhunwala college)

Title of the Report:

Blood Karyotyping: Understanding Chromosomal Abnormalities

Date and venue

The training workshop took place on 11 November to 10 December.

Abstract:

This report explores the process of blood karyotyping, a diagnostic technique used to analyze chromosomal abnormalities. It discusses the significance of karyotyping in clinical practice, its methodology, interpretation of results, and its role in diagnosing genetic disorders. The report also highlights the importance of genetic counseling in the context of karyotyping findings.

Agenda

Day 1

Introduction of karyotyping

Structural details of chromosomes and disorders

Day 2

The blood is cultured for 72 hours in culture media with fetal bovine serum, L-glutamine and PHA (phytohemagglutanin) at 5% CO2 and 37C.

After culture, blood is exposed to cocamide (to collect mitotic cells), hypotonic solution and fixative

Day 3

Keep ppts, centrifuge tubes and round bottom tubes for keeping ppts according to the no. of vials and name them properly. Remove the vials from the incubator, transfer the

contents into graduated glass centrifuge tubes (15ml capacity) with the same labels. Centrifuge at1000 rpm for 10 min.

Remove the supernatant leaving the pellet behind. Mix and add prewarmed KCL(0.560gms in 100ml) to make the volume to 5ml . mix thoroughly and incubate at 37o C for 20 min

Add fixative and centrifuge the solution until it's became transparent

After obtain transparent solution cell suspension is dropped on a slide.

For the drying keep it on heater for few minutes

Day 4

Next day, the tubes are removed from the refrigerator centrifuged, and 2-3 washes are given with fixative till the pellet becomes white. At the end discard the supernatant leaving behind fixative till 0.5 ml. keep the hot plate at 40C, take acidified chilled slides, (slides kept in cold water in refrigerator). Mix the pellet thoroughly and drop it on the cold slide from a high and keep on the hot plate to heat dry. Remove the slide, stain with plain Giemsa and see under the microscope. If adequate no. of good quality metaphases are achieved the it is a successful culture otherwise it 's a failure.

Take no.1slide of each patient in a Petri dish and pour Buffer prewarmed at 60o C

Till the slides immerse in the buffer. Keep this Petridis at 60o C for 15 min. Take trypsin EDTA & N. saline in separate Petri dishes. Remove each slide from the buffer and rock the slide in EDTA mixture for certain fixed time, remove and rinse in normal saline. Stain the slide and see under the microscope. If good banding is not achieved i.e. over trypsinised, or trypsin treatment was not enough, adjust the time for the second batch of slides accordingly. Repeat this procedure for all the 4 slides of each patient. Select a good metaphase after screening to check whether it is normal. Screen 15-20 good metaphases and select one of them for mapping, take the photograph of the same, and send for printing. Stick the photographs.

Day 5

Observed the slide under microscope

Acknowledgements:

I would like to express my gratitude to Dr. Posam and Respected HOD Dr. Sucheta

Golwalkar .