



**Integer Solution**

## **SOFTWARE MANUAL**

# **ELECTRO DIAGNOSTIC**

Version / Build Number  
**1.0.2136**

## Introduction :

ELECTRO DIAGNOSTIC is a web based application which is developed by INTEGER SOLUTION, Silchar, Assam. The architecture of this application is Java programming language is used in server side and html and javascript as front end and MySQL for backend database.

Application is build with multiple modules like Patient Registration, Billing module, Quality assurance module, Lab reporting module, MIS module and Administration module. Every module wise we can create the user and set the privilege as per requirements. User name "Admin" will be the super user in the application. The software can be used via online or we can install it in offline server.

## Software Overview :

To open this application we can use any web browser for example Google Chrome, Mozilla Firefox, Opera etc. After opening the browser in the URL (Address bar) we need to type '**localhost:8080/ELECTRO\_DIAGNOSTIC**' and in the network computer we need to type the server IP address followed by :8080/ELECTRO\_DIAGNOSTIC than press Enter button in the keyboard. After opening the application we have to enter the Username and Password to enter the application.

Below is the image of index page.

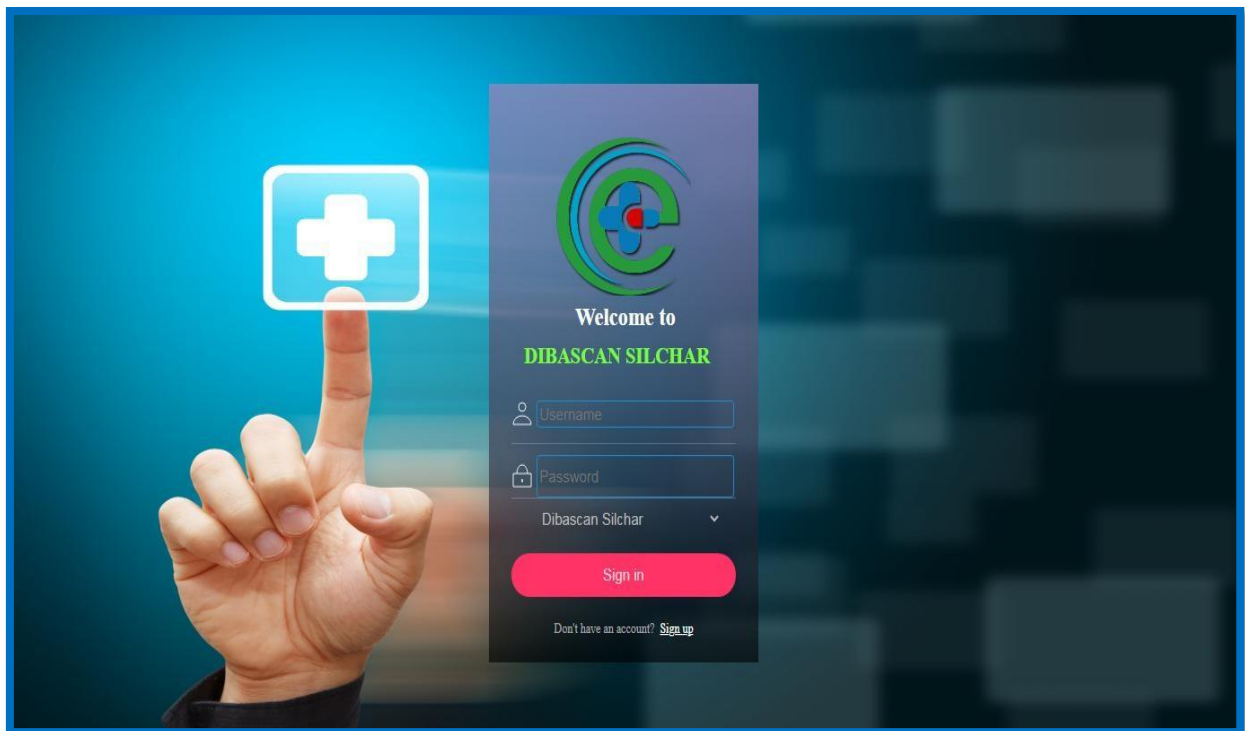


Fig: index page.

After successfully login will see the 'Home' page of the application. In the Home page there is a Navigation bar (Manu Bar) in the top and for quick access there are couple of shortcut buttons are available in the Home page.



Fig: Home

By clicking the 'NEW REGISTRATION' button new pop-up will appear, further we need to insert the details as per the Registration form.

Fig: New Registration

Once we are done with the Registration process than the next step would be to create the Investigation bill for each patient. Bellow image is the example of how to add multiple Investigations for each patient. After adding all the Inv. Total amount is calculated automatically and application has the privilege to go with Full Payment option or Partial Payment option.

**ELECTRO DIAGNOSTIC**

Home Registration Requisition Patient Billing Stock Department Reports Administration

BILLING > CALCULATE CURRENT BILL >

REG NO.: 202000005 NAME: LANI MIA CHOUDHURY

ADD NEW ITEM ADD REF DOCTOR

Advance amount : 0  
Unpaid amount : 0

RESOURCE DETAILS

Select item:   
Referral doctor: AHMED HUSSAIN LASKAR  
Agent name:   
Unit price:   
Quantity / Days: 1  
Price:   
ADD

| SL. NO. | ITEM NAME                    | RATE     | PRICE | DATE       | ACTION |
|---------|------------------------------|----------|-------|------------|--------|
| 1.      | CBC                          | 500 X 1  | 500   | 06/05/2021 |        |
| 2.      | KFT                          | 520 X 1  | 520   | 06/05/2021 |        |
| 3.      | LFT I                        | 1000 X 1 | 1000  | 06/05/2021 |        |
| 4.      | LIPID PROFILE                | 850 X 1  | 850   | 06/05/2021 |        |
| 5.      | THYROID PANEL ( T3, T4,TSH ) | 550 X 1  | 550   | 06/05/2021 |        |
| TOTAL : |                              |          | 3420  |            |        |

BACK END FOR PARTIAL PAYMENT

Paid invoice layout after full bill payment.

**ELECTRO DIAGNOSTIC**

Home Registration Requisition Patient Billing Stock Department Reports Administration

BILLING > PAID INVOICE >

PAID INVOICE NO. : 1534

PRINT BARCODE

**DIBASCAN DIAGNOSTIC CENTRE**  
HATILAKANDI ROAD, NEAR SECOND LINK ROAD, SILCHAR - 788006  
PHONE NO. : (03842) 224709, 241701, 241702 MOB.: 9435620734

BILLING PAID INVOICE

REGISTRATION NO. : 202101264  
PATIENT NAME : SATYABALA DAS  
AGE/GENDER : 48 YEARS / MALE  
REFERRING DOCTOR : DR. B NATH

INVOICE NO. : 1534  
DATE : 01/02/2021  
CONTACT : 9706868972

| SL. NO.            | ITEM NAME   | RATE     | PRICE | DATE       |
|--------------------|-------------|----------|-------|------------|
| 1.                 | BLOOD RE    | 320 X 1  | 320   | 01/02/2021 |
| 2.                 | KFT         | 520 X 1  | 520   | 01/02/2021 |
| 3.                 | LFT I       | 1000 X 1 | 1000  | 01/02/2021 |
| 4.                 | USG ABDOMEN | 1300 X 1 | 1300  | 01/02/2021 |
| 5.                 | WIDAL TEST  | 260 X 1  | 260   | 01/02/2021 |
| TOTAL AMOUNT:      |             |          | 3400  |            |
| DISCOUNTED AMOUNT: |             |          | 0     |            |
| PAID :             |             |          | 3400  |            |

BACK

Fig: Paid Invoice



**DIBSCAN DIAGNOSTIC CENTRE**  
HAILAKANDI ROAD, NEAR SECOND LINK ROAD, SILCHAR - 788006  
PHONE NO. : (03842) 224709, 241701, 241702 MOB.: 9435620734



6618

**BILLING PAID INVOICE**

Registration No. : 202106143 Invoice No. : 6618  
Patient Name : NAZIMA BEGUM Date : 23/06/2021  
Age/Gender : 24 Years / Female Contact : 9101111636  
Referring Doctor : DR. ( MRS. ) S G BANDANA MD

| SL NO.             | ITEM NAME                                      | RATE     | PRICE | DATE       |
|--------------------|--|----------|-------|------------|
| 1.                 | ABO/RH GROUPING                                | 150 X 1  | 150   | 23/06/2021 |
| 2.                 | CBC WITH ESR                                   | 500 X 1  | 500   | 23/06/2021 |
| 3.                 | RBS  | 90 X 1   | 90    | 23/06/2021 |
| 4.                 | THYROID PANEL ( T3, T4,TSH )                   | 550 X 1  | 550   | 23/06/2021 |
| 5.                 | USG OF GRAVID UTERUS                           | 1500 X 1 | 1500  | 23/06/2021 |
| 6.                 | VIROLOGY PROFILE ( HIV I & II , HBSAG & VDRL ) | 1000 X 1 | 1000  | 23/06/2021 |
| TOTAL AMOUNT:      |  |          | 3790  |            |
| DISCOUNTED AMOUNT: |  |          | 0     | 0.0 %      |
| PAID :             |  |          | 3790  | 23/06/2021 |

Rupees Three Thousand Seven Hundred Ninety only.

Signature

Fig: Print layout of Paid Invoice

After Billing we can generate the Test Requisition Form (TRF).

**ELECTRO DIAGNOSTIC** admin Dibscan Silchar

Home Registration Requisition Billing Stock Department Reports Administration

PATIENT > CREATE REQUISITION

Registration No., name, cont

**TEST REQUISITION FORM**

**PATIENT DETAILS**

Patient Id : 201900001 Patient Name : ABHIJIT NATH  
Age : 33 Gender : Male  
Address : Das colony, Silchar Phone No. : 889798799  
E-mail Id : Referring Doctor :  
Test Code 1 : HCV01 Test Description 1 : Hepatitis C viral load  
Test Code 2 : Test Description 2 :  
Test Code 3 : Test Description 3 :  
Test Code 4 : Test Description 4 :  
Date of Drawn : Time of Drawn :  
Date of receiving : Time of receiving :  
Temperature Recd : ☐ Frozen (-10°Celsius) ☐ Cold (2-8°Celsius) ☐ Ambient Specimen Type : ☐ Serum ☐ W.blood EDTA  
☐ Smear ☐ Urine ☐ Swab

**ESSENTIAL CLINICAL INFORMATION**

H/O Medication : If Yes Name :  
Status of Medication :  
SUBMIT

Important : It is mandatory to provide all the requested information to enable accurate and timely reporting

Fig: Create Requisition

Print Layout of Requisition Form.


|   |  |  |  |
|---|--|--|--|
|                                    |  | <b>DIBASCAN DIAGNOSTIC CENTRE</b><br>HAILAKANDI ROAD, NEAR SECOND LINK ROAD, SILCHAR - 788006<br>PHONE NO. : (03842) 224709, 241701, 241702 MOB.: 9435620734 |  |
| <b>TEST REQUISITION FORM</b>  |  |  |  |
| <b>Patient Details</b>  |  |  |  |
| <b>Patient Id</b> : 201900001   |  | <b>Lab No.</b> : 34  |  |
| <b>Patient Name</b> : ABHIJIT NATH  |  | <b>Age/Gender</b> : 33 / Male  |  |
| <b>Address</b> : MEHERPUR, SILCHAR  |  | <b>Phone No.</b> : 889798799   |  |
| <b>E-mail Id</b> : abhijith.nath@gmail.com  |  | <b>Referring Doctor</b> : D K NARAYAN MD   |  |
| <b>Test Code 1</b> : HCV01  |  | <b>Test Description 1</b> : Hepatitis C viral load   |  |
| <b>Test Code 2</b> :  |  | <b>Test Description 2</b> :  |  |
| <b>Test Code 3</b> :  |  | <b>Test Description 3</b> :  |  |
| <b>Test Code 4</b> :  |  | <b>Test Description 4</b> :  |  |
| <b>Date of Drawn</b> : 16/02/2021   |  | <b>Time of Drawn</b> : 03:16 AM  |  |
| <b>Date of receiving</b> : 17/02/2021   |  | <b>Time of receiving</b> : 04:10 PM  |  |
| <b>Temperature Recd</b> :   |  | <b>Specimen Type</b> : W.blood EDTA, Urine, Swab   |  |
| <b>Essential Clinical Information</b>   |  |  |  |
| <b>H/O Medication</b> : No  |  | <b>Status of Medication</b> : Ongoing (Duration : 3 days)  |  |
| <b>Drawn By</b>   |  | <b>Received By</b>   |  |
| <b>Important</b> : It is mandatory to provide all the requested information to enable accurate and timely reporting |  | <div><b>Signature of Requisitioner / Patient</b><br/><b>Date</b> :</div>   |  |

Fig: Requisition Form

To create Pathology Report we have to go to Department in the menu bar then Pathology -> Pathology Report -> Create invoice wise report.

PATHOLOGY > CREATE INVOICE WISE REPORT

Start date:  End date:

| SL. | DATE       | INV. NO. | REG. NO.  | PATIENT NAME   | CONTACT    | REFERRED BY         | REPORT TYPE   |
|-----|------------|----------|-----------|----------------|------------|---------------------|---------------|
| 1.  | 27/02/2021 | 32       | 201900002 | BINA SUTRADHAR | 8724985651 | BIPLOB NATH MBBS MD | NORMAL REPORT |
| 2.  | 27/02/2021 | 31       | 202100001 | RINKU RANI DAS | 9887897970 | BIPLOB NATH MBBS MD | NORMAL REPORT |

TEST DETAILS OF INVOICE NO. 31

202100001 RINKU RANI DAS

1. HDL Cholesterol

Fig: Create invoice wise report.

Pathology > Create Report

REG NO.: 202104994 NAME: SHANTAJYOTI CHAKRABORTY

Registration No., name, contact

TEST DETAILS

[SGPT](#), [SGOT](#), [PBF STUDY](#), [HB](#)

| SL | TEST NAME    | SUB TEST NAME | DEPARTMENT NAME | NORMAL RANGE   | RESULT   | ACTION                           |
|----|--------------|---------------|-----------------|--|----------|----------------------------------|
| 1. | BLOOD REPORT | Hb%           | HAEMATOLOGY     | Male: 13.0 -- 17.0 g/dl<br>Female: 11.5 -- 15.0 g/dl | 8.6 g/dl | <input type="button" value="✗"/> |
| 2. | BLOOD REPORT | SGOT (AST)    | BIOCHEMISTRY    | UPTO 40 U/L  | 40.2 U/L | <input type="button" value="✗"/> |
| 3. | BLOOD REPORT | SGPT (ALT)    | BIOCHEMISTRY    | UPTO 45 U/L  | 36.4 U/L | <input type="button" value="✗"/> |

CREATE PATHOLOGY REPORT

Referral doctor: BHASKAR KANTI NATH, MD.

Reporting doctor:

Department name:  Test name:

Comments:

Sample Type:

Activate Windows

Fig: Create pathology report.

In the create report page lab technical will have the privilege to enter the results as per test. Other than lab technician user privilege no one can enter the create report page.

Pathology > Update Report >

REG NO.:- 202104994 NAME:- SHANTAJYOTI CHAKRABORTY

Serial no.: 1114 Referral doctor: BHASKAR KANTI NATH, MD. Reporting doctor: DR ANIRUDDHA DEBNATH MD

Comments :

Sample Type : Serum

| SL | TEST NAME         | SUB TEST NAME    | DEPARTMENT NAME      | NORMAL RANGE   | RESULT  | ACTION |
|----|-------------------|------------------|----------------------|--|---|--------|
| 1. | BLOOD REPORT      | Hb%              | HAEMATOLOGY          | Male:13.0 -- 17.0 g/dl<br>Female: 11.5 -- 15.0 g/dl g/dl | 8.6 g/dl<br><input type="checkbox"/> H <input type="checkbox"/> L |        |
| 2. | BLOOD REPORT      | SGOT (AST)       | BIOCHEMISTRY         | UPTO 40 U/L U/L  | 40.2 U/L<br><input type="checkbox"/> H <input type="checkbox"/> L |        |
| 3. | BLOOD REPORT      | SGPT (ALT)       | BIOCHEMISTRY         | UPTO 45 U/L U/L  | 35.7 U/L<br><input type="checkbox"/> H <input type="checkbox"/> L |        |
| 4. | Select department | Select test name | Select sub test name |  |   | ADD    |

SAVE CHANGES

TECHNICIAN'S AMENDMENT :

Fig: Update pathology report.

Report update page. Lab technician will have the second round of validation scope. In case of any modification software will count as Technicians amendment.

Pathology > Update Report >

REG NO.:- 202104994 NAME:- SHANTAJYOTI CHAKRABORTY

Serial no.: 1114 Referral doctor: BHASKAR KANTI NATH, MD. Reporting doctor: DR ANIRUDDHA DEBNATH MD

Comments :

Sample Type : Serum

| SL | TEST NAME         | SUB TEST NAME    | DEPARTMENT NAME      | NORMAL RANGE   | RESULT  | ACTION |
|----|-------------------|------------------|----------------------|--|---|--------|
| 1. | BLOOD REPORT      | Hb%              | HAEMATOLOGY          | Male:13.0 -- 17.0 g/dl<br>Female: 11.5 -- 15.0 g/dl g/dl | 8.6 g/dl<br><input type="checkbox"/> H <input type="checkbox"/> L |        |
| 2. | BLOOD REPORT      | SGOT (AST)       | BIOCHEMISTRY         | UPTO 40 U/L U/L  | 40.2 U/L<br><input type="checkbox"/> H <input type="checkbox"/> L |        |
| 3. | BLOOD REPORT      | SGPT (ALT)       | BIOCHEMISTRY         | UPTO 45 U/L U/L  | 35.7 U/L<br><input type="checkbox"/> H <input type="checkbox"/> L |        |
| 4. | Select department | Select test name | Select sub test name |  |   | ADD    |


UPDATE REPORT

Fig: Update pathology report with doctor privilege.


The final update report page will need the reporting doctor's login credential privilege to update the report. Once the reporting doctor will login with the given credential than only software will give the privilege to update report. While updating the report doctor will see is there any technicians amendment or not.

Some of the report formats are as follows.




**DIBASCAN DIAGNOSTIC CENTRE**  
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PATIENT ID. :  202106151

PATIENT NAME : **HIRALAL RABIDAS**

AGE/SEX : 56 Years/Male

PHONE : 9394135900

REFERENCE : **DR. B C DEB**


LAB SERIAL NO. :  000001795

ADDRESS : **TILANAGAR**

COLLECTION DATE : 24/06/2021 06:37 PM

REPORTING DATE : 24/06/2021 06:37 PM

AMMENDMENT :




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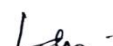
**TEST REPORT**  
**BIOCHEMISTRY**

| TEST DESCRIPTION                           | RESULT | UNITS | BIOLOGICAL REFERENCE INTERVAL                                    |
|--|--------|-------|--|
| <b>LIPID PROFILE</b>                       |        |       |  |
| 1. Total Cholesterol<br>CHE/CHO/POD        | 187.0  | mg/dl | DESIRABLE UP TO 200<br>BORDER LINE UP TO 239<br>ELEVATED IF >240 |
| 2. HDL Cholesterol<br>CHE/CHO/POD          | 38.2   | mg/dl | 26-60 mg/dl  |
| 3. LDL Cholesterol<br>Calculated           | 103.0  | mg/dl | upto 150 mg/dl   |
| 4. VLDL<br>Calculated                      | 45.8   | mg/dl | up to 35.0 mg/dl   |
| 5. Total Chol/HDL Chol Ratio<br>Calculated | 4.8    | mg/dl | 3.5-5.0 mg/dl  |
| 6. LDL Chol/HDL Chol Ratio<br>Calculated   | 2.6    | mg/dl | 2.5-3.5 mg/dl  |
| 7. Triglyceride<br>Enzymatic               | 229.2  | mg/dl | 20-140 mg/dl   |

**Sample Type : Serum**

**\*\*END OF REPORT\*\***

  
 Lab Technician


  
**DR. ANIRUDDHA DEBNATH MD**  
 CONSULTANT PATHOLOGIST

**NOTE :** This report has been digitally certified and it doesn't need a hand signature.


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THE FINDING SHOULD ALWAYS BE CONSIDERED IN CO-RELATION WITH THE CLINICAL AND OTHER INVESTIGATION FINDINGS WHERE APPLICABLE. THIS REPORT IS NOT MEANT FOR MEDICO-LEGAL PURPOSE

Fig: Lipid Profile Report.


**DIBASCAN DIAGNOSTIC CENTRE**  
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 Ph. : (03842) 224709, 241701, 241702 Mob. : 9435620734 E-mail : dibascan.silchar@gmail.com

---


PATIENT ID. :  202106101

PATIENT NAME : **BROJENDRO SINGHA**

AGE/SEX : 57 Years/Male

PHONE : 7896982484

REFERENCE : **DR. NILADRI DEY, MS.**


LAB SERIAL NO. :  000001762

ADDRESS : .....

COLLECTION DATE : 22/06/2021 04:52 PM

REPORTING DATE : 22/06/2021 06:24 PM

AMMENDMENT :




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**TEST REPORT**  
**BIOCHEMISTRY**

| TEST DESCRIPTION   | RESULT | UNITS | BIOLOGICAL REFERENCE INTERVAL   |
|--|--------|-------|---|
| <b>LIVER FUNCTION TEST (LFT)</b>                         |        |       |   |
| 1. Total Bilirubin<br>COLORIMETRIC                       | 0.8    | mg/dl | 0.1-1.2 mg/dl (Adult)   |
| 2. Direct Bilirubin<br>CALCULATED                        | 0.3    | mg/dl | 0.0-0.2 mg/dl   |
| 3. Indirect Bilirubin<br>DUAL WAVELENGTH                 | 0.5    | mg/dl |   |
| 4. Total Protein<br>BIURET                               | 6.8    | gm/dl | 6.0-8.3 gm/dl   |
| 5. Albumin<br>BROMOCRESOL GREEN                          | 3.9    | gm/dl | 3.5-5.2 gm/dl   |
| 6. Globulin<br>CALCULATED                                | 2.9    | gm/dl | 2.3-3.6 gm/dl   |
| 7. Serum Alkaline Phosphatase<br>P-NITROPHENYL PHOSPHATE | 101.4  | IU/L  | Children up to 17 Years 483<br>Adult male 80-306<br>Adult female 64-306 |
| 8. SGPT (ALT)<br>VISIBLE WITH P-5-P                      | 17.7   | U/L   | UPTO 45 U/L   |
| 9. SGOT (AST)<br>UV WITH P-5-P                           | 24.0   | U/L   | UPTO 40 U/L   |

**Sample Type : Serum**

**\*\*END OF REPORT\*\***

  
 Lab Technician

  
**DR. ANIRUDDHA DEBNATH MD**  
 CONSULTANT PATHOLOGIST

**NOTE :** This report has been digitally certified and it doesn't need a hand signature.

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Fig: Liver Function Test Report.



## DIBSCAN DIAGNOSTIC CENTRE

Hailakandi Road, Near Second Link Road, Silchar - 788 006  
Ph. : (03842) 224709, 241701, 241702 Mob. : 9435620734 E-mail : dibscan.silchar@gmail.com

PATIENT ID. : 2021061110

LAB SERIAL NO. : 000001775



PATIENT NAME : AJAY NATH  
AGE/SEX : 67 Years/Male  
PHONE : 8474851015  
REFERENCE : DR. KANAKDEEP SHARMA

ADDRESS : SILCHAR  
COLLECTION DATE : 22/06/2021 04:52 PM  
REPORTING DATE : 22/06/2021 08:06 PM  
AMMENDMENT :

### TEST REPORT

#### HAEMATOLOGY

| TEST DESCRIPTION   | RESULT | UNITS       | BIOLOGICAL REFERENCE INTERVAL                                    |
|--|--------|-------------|--|
| <b>Complete Blood Count (CBC)</b>                                |        |             |  |
| 1. Total WBC Count(TLC)<br>ELECTRICAL IMPEDANCE                  | 7400   | /cumm       | 4,000-10,000 /cumm   |
| 2. Differential Leucocytes Count                                 |        |             |  |
| Neutrophils<br>ELECTRICAL IMPEDANCE                              | 65     | %           | 40 - 80 %  |
| Lymphocytes<br>ELECTRICAL IMPEDANCE                              | 28     | %           | 20 - 40 %  |
| Monocytes  | 05     | %           | 2 - 10 %   |
| Eosinophils<br>ELECTRICAL IMPEDANCE                              | 02     | %           | 1 - 6 %  |
| Basophils<br>ELECTRICAL IMPEDANCE                                | 00     | %           | <1 - 2 %   |
| 3. Hb%<br>SPECTROPHOTOMETER                                      | 11.9   | g/dl        | Male: 13.0 -- 17.0 g/dl<br>Female: 11.5 -- 15.0 g/dl             |
| 4. ESR<br>MODIFIED WESTERGREN                                    | 20     | mm/AEFH     | (Westergren) Male : 0-10 mm A.E.F.H.<br>Female : 0-20 mm A.E.F.H |
| 5. RBC Count<br>ELECTRICAL IMPEDANCE                             | 4.30   | mill / cumm | 3.5 - 4.5 mill / cumm  |
| 6. PCV (Packed Cell Volume)<br>ELECTRONIC PULSE &<br>CALCULATION | 39.6   | %           | 36 - 46 %  |
| 7. MCV<br>CALCULATED   | 92.7   | fl          | 83 - 101 fl  |
| 8. MCH<br>CALCULATED   | 27.8   | pg          | 27 - 32 pg   |
| 9. MCHC<br>CALCULATED  | 31.2   | %           | 31.5 - 34.5 %  |
| 10. Platelet Count<br>ELECTRICAL IMPEDANCE                       | 1.40   | Lac/cumm    | 1.5-4.0 Lac/cumm   |

Sample Type : Whole blood

**\*\*END OF REPORT\*\***

Lab Technician

DR ANIRUDDHA DEBNATH MD  
CONSULTANT PATHOLOGIST

**NOTE :** This report has been digitally certified and it doesn't need a hand signature.

THE FINDING SHOULD ALWAYS BE CONSIDERED IN CO-RELATION WITH THE CLINICAL AND OTHER INVESTIGATION FINDINGS WHERE APPLICABLE. THIS REPORT IS NOT MEANT FOR MEDICO-LEGAL PURPOSE

Fig: Complete Blood Count Report.

Under the "Report" section will get the report of "Daily Sales Report", "Department wise sales report", "Patient wise report" and many more.

Fig: Billing Date wise Sales Report

From Administration we can control the full application. Administration page will give the privilege of creating new user id, Change company details, create new department, SMS Details and user wise privilege setup this enables the security policy of the application. Only “Admin” user id will have the access of this page.

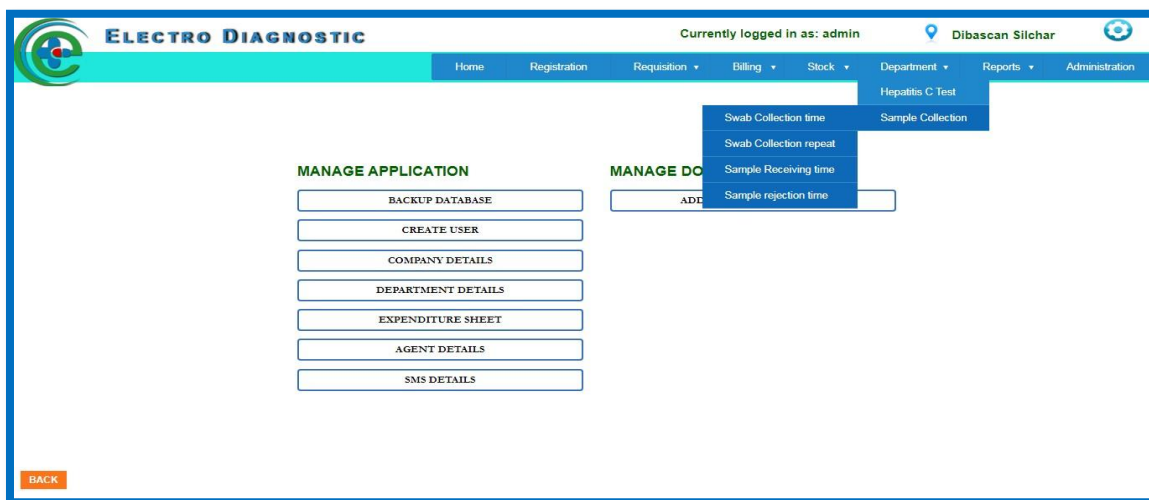


Fig: Administration



Fig – Backup database.

In the home page of the application there is a “BACKUP DATABASE” button is available to take the backup. This Backup button will create a .sql file the Drive D:\Backup\_Database folder. For secondary backup we can configure the cloud backup or USB backup.