

A
Project Report
On
“LAB DIAGNOSIS OF DENGUE VIRUS BY VARIOUS
TECHNIQUES”



Department of Microbiology
JANTA VEDIC COLLEGE, BARAUT (BAGHPAT) 250611

Supervisor-

Internal- Dr. Mahesh Kumar

External- Dr. RK Bhatnagar

Submitted By-

Name- Arun Kumar

Roll No.- 190867254001

Enroll. No.- 19180888



CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT

2021

☎ 01234-262130 (O)

Dr. Mahesh Kumar

M.Sc., M.Phil., Ph.D.



Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt.-Baghpat, U.P. India

Dated 27/09/2021

CERTIFICATE

This is to certify that thesis entitled “**LAB DIAGNOSIS OF DENGUE VIRUS BY VARIOUS TECHNIQUES**” submitted in the fulfilment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut-250611, (U.P.) is an original record of bona fide research work carried out by **ARUN KUMAR** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Mr. ARUN KUMAR** worked here from 01st January, 2021 to 31st July., 2021.

I wish her all the success in future endeavors.

27 sept.

Date: - 2021

Place: - Barut

M. Kumar

(Dr Mahesh Kumar)

Internal Supervisor



DREAM'S DIAGNOSTIC LAB

Fully Computerised & Fully Equipped Path Lab

Kaenchi Pull, Near Indian Bank Butts Ganj
Sitapur (U.P) 261001

Mobile : 9455928854, 9628848415

CERTIFICATE

This is certified that project work entitled Lab Diagnosis of Dengue virus by various techniques Submitted in partial fulfillment of the requirement for the degree of Master of Science in the department of Microbiology, JANTA VEDIC COLLAGE BARAUT BAGHPAT(UP), is a record of bona fide research carried out by Arun Kumar under the supervision of coordinator Department of Dream Diagnostic Lab Sitapur from may 2021 to aug 2021 and that no part of this report has been submitted for any other degree and diploma.

The assistance and held receive during the course of this investigation have been fully acknowledge.

Date:- 05/09/2021

Dream's Diagnostic Lab
Near Kaenchi Pull
Butteganj Sitapur
9628848415, 9455928854


Dr. R.K. BHATNAGAR

MBBS, MDPATHOLOGIST

Residence: - JANTA VEDIC COLLEGE BARAUT (BAGHPAT) UTTAR PRADESH

24 Hour HOME COLLECTION FACILITY AVAILABLE

* This is only a professional opinion and not a diagnosis. It should always be clinically correlated

Time

ACKNOWLEDGEMENT

I express my heart full gratitude to the most beneficent and the most merciful without whose grace and blessing this work would not have been possible.

I wish to express my sincere thanks and deep sense of gratitude for her guidance and unfailing help in every step of the study. Her constant supervision and encouragement enable me to complete the task.

First and foremost, I would like to praise and thank **God**, the all mighty, who has granted countless blessing, opportunity and knowledge to me, so that I have been finally able to accomplish the thesis. I would like to extend my sincere and heartfelt obligation towards all the personages who have helped me in this endeavor. Without their active guidance, help, cooperation and encouragement; I would not have made headway in this project.

I would like to express my sincere gratitude to my advisor and mentor **Dr. Sheesh Pal Singh, Dr. Vrun Kumar Tomer, Dr. Reena Tomer**, Department of Microbiology, JV College, Baraut for their suggestions, motivation, enthusiasm and perpetual encouragement throughout this research. Their invaluable guidance helped me all the time during this research work.

Besides my advisor, I am deeply thankful to **Dr. R. K. Bhatnagar** (Dream's Diagnostic Lab, Sitapur) for his guidance, supervision and valuable suggestions. It was a great privilege and honor to work and study under his guidance.

I would also like to extend my gratitude to my dearest friends Himanshu, Himani, Dipak, Lokesh, Priya, Divya, Vaishali, Sonia, Stuti, for helping me in completing this work. The countless time you guys helped me throughout this project and give all your support, is really appreciable, a big thanks to you cronies.

Last but not the least, my deep and sincere gratitude to my family for their continuous and unparalleled love, care and constant support. Your encouragement, when the time got rough are much appreciated. Finally, thanks also to anybody I forgot to mention who was involved in this work and contributed to its success.

Arun Kumar
Arun kumar

CONTENTS

| | | | |
|----|------------------------|---|-------|
| 1. | Introduction | : | 01-03 |
| 2. | Review of Literature | : | 04-16 |
| 3. | Materials and Methods | : | 17-26 |
| 4. | Results and Discussion | : | 27-31 |
| 5. | Summary | : | 32 |
| 6. | References | : | 33-34 |

A
Project Report
On
“LAB DIAGNOSIS OF PARASITIC INFECTION OF
MALARIA”



Department of Microbiology
JANTA VEDIC COLLEGE, BARAUT (BAGHPAT) 250611

Supervisor-

Internal- Dr. Mahesh Kumar

External- Dr. RK Bhatnagar

Submitted By-

Name- Dipak Raj

Roll No.- 190867254002

Enroll. No.- M19180889



CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT

2021

☎ 01234-262130 (O)

Dr. Mahesh Kumar
M.Sc., M.Phil., Ph.D.



Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt.-Baghpat, U.P. India

Dated 27/09/2021

CERTIFICATE

This is to certify that thesis entitled “**LAB DIAGNOSIS OF PARASITIC INFECTION OF MALARIA**” submitted in the fulfillment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut-2500611, (U.P.) is an original record of bonafide research work carried out by **Mr. Dipak Raj** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Mr. Dipak Raj** worked here from 01st January, 2021 to 31st July, 2021.

I wish her all the success in future endeavors.

Date: 27/09/2021
Place: Baraut

M. Kumar
(Dr Mahesh Kumar)
Internal Supervisor



DREAM'S DIAGNOSTIC LAB

Fully Computrised & Fully Equipped Path Lab

Kaenchi Pull, Near Indian Bank Butts Ganj
Sitapur (U.P) 261001

Mobile : 9455928854, 9628848415

CERTIFICATE

This is certified that project work entitled Lab Diagnosis of Parasitic infection of Malaria Submitted in partial fulfillment of the requirement for the degree of Master of Science in the department of Microbiology, JANTA VEDIC COLLAGE BARAUT BAGHPAT(UP), is a record of bona fide research carried out by Dipak Raj under the supervision of Dr. R.K. Bhatnagar coordinator Department of Dream Diagnostic Lab Sitapur from June 2021 to August 2021 and that no part of this report has been submitted for any other degree and diploma.

The assistance and help received during the course of this investigation have been fully acknowledged.

Date:- 04/09/21

Dream's Diagnostic Lab
Near Kaenchi Pull
Butteganj Sitapur
9628848415, 9455928854


Dr. R.K. BHATNAGAR

MBBS, MD PATHOLOGIST

Residence: - JANTA VEDIC COLLEGE BARAUT (BAGHPAT) UTTAR PRADESH

ACKNOWLEDGEMENT

First and foremost, I would like to praise and thank **God**, the all mighty, who has granted countless blessing, opportunity and knowledge to me, so that I have been finally able to accomplish the thesis. I would like to extend my sincere and heartfelt obligation towards all the personages who have helped me in this endeavor. Without their active guidance, help, cooperation and encouragement; I would not have made headway in this project.

I would like to express my sincere gratitude to my advisor and mentor **Dr. Sheesh Pal Singh, Dr. Varun Kumar Tomer, Dr. Reena Tomer**, Department of Microbiology, JV College, Baraut for their suggestions, motivation, enthusiasm and perpetual encouragement throughout this research. Their invaluable guidance helped me all the time during this research work.

Besides my advisor, I am deeply thankful to **Dr. R. K. Bhatnagar** (Dream's Diagnostic Lab, Sitapur) for his guidance, supervision and valuable suggestions. It was a great privilege and honor to work and study under his guidance.

I would also like to extend my gratitude to my dearest friends Himanshu, Lokesh, Arun, Divya, Priya, Stuti, Vaisali, Himani, and Sonia for helping me in completing this work. The countless time you guys helped me throughout this project and give all your support, is really appreciable, a big thanks to you cronies.

Last but not the least, my deep and sincere gratitude to my family for their continuous and unparalleled love, care and constant support. Your encouragement, when the time got rough are much appreciated. Finally, thanks also to anybody I forgot to mention who was involved in this work and contributed to its success.

Dipak Raj
Dipak Raj

CONTENTS

| | | | |
|----|-----------------------|---|-------|
| 1. | Introduction | : | 01-04 |
| 2. | Review of Literature | : | 05-09 |
| 3. | Material and Method | : | 10-16 |
| 4. | Result and Discussion | : | 17-28 |
| 5. | Summary | : | 29 |
| 6. | Reference | : | 30-32 |

A
Project Report
On
TO STUDY THE DIAGNOSIS OF TUBERCULOSIS BASED ON
DIFFERENT METHODS



DEPARTMENT OF MICROBIOLOGY
Janta Vedic College, Baraut (Baghpat)

SUPERVISOR:

Internal- Dr. Mahesh Kumar

External- Dr. Satish Kumar

SUBMITTED BY:

Himani Nain

Roll No. - 190867254003

Enroll. No. - 14094749



Chaudhary Charan Singh University, Meerut

2021

☎ 01234-262130 (O)

Dr. Mahesh Kumar

M.Sc., M.Phil., Ph.D.



Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt.-Baghpat, U.P. India

Dated 27 Sept. 2021

CERTIFICATE

This is to certify that thesis entitled “**To Study the Diagnosis of Tuberculosis based on different methods**” submitted in the fulfillment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut-2500611, (U.P.) is an original record of bonafide research work carried out by **Ms. Himani Nain** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Ms. Himani Nain** worked here from 02nd February, 2021 to 31st July, 2021.

I wish her all the success in future endeavors.

Date: 27/9/2021
Place : Baraut

M. Kumar
(**Dr. Mahesh Kumar**)
Internal Supervisor



COMMUNITY HEALTH CENTRE



KHEKRA, BAGHPAT, UP

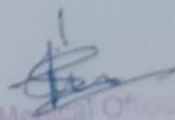
Reference: CHC/BPT/AUGUST/2021

Date: 04-08-2021

TRAINING CERTIFICATE

This is to certify that Miss. Himani Nain D/O Mr. Satish Kumar, Student of M.Sc. Microbiology has completed training in Community Health Centre Khekra, Baghpat, UP, "TO STUDY THE DIAGNOSIS OF TUBERCULOSIS BASED ON DIFFERENT METHODS" for a period of six months from 02 February 2021 to 31 July 2021 under the guidance of Dr. Satish Kumar. Her performance has been satisfactory and submitted the project so as to fulfill all the requirement successful completion of the training.

She is the reliable, sincere, hardworking and cooperative person and bears a good moral character. We wish her all the success for her bright future.


Medical Officer
Community Health Centre
Khekra, Baghpat
Authorized signatory
Community Health Centre
Khekra, Baghpat, UP

ACKNOWLEDGEMENT

First and foremost, I would like to praise and thank **God**, the almighty, who has granted countless blessing, opportunity and knowledge to me, so that I have been finally able to accomplish the thesis. I would like to extend my sincere and heartfelt obligation towards all the personages who have helped me in this endeavor. Without their active guidance, help, cooperation and encouragement; I would not have made headway in this project.

I would like to express my sincere gratitude to my advisor and mentor **Dr. Mahesh Kumar, Dr. Reena Panwar and Dr. Varun Tomer** Department of Microbiology, JV College, Baraut for their suggestions, motivation, enthusiasm and perpetual encouragement throughout this research. Their invaluable guidance helped me all the time during this research work.

Besides my advisor, I am deeply thankful to Dr. Satish Kumar (from CHC Khekra, Baghpat) for his guidance, supervision and valuable suggestions. It was a great privilege and honor to work and study under his guidance.

I would also like to extend my gratitude to my dearest friends Sonia, Vaishali and Stuti for helping me in completing this work. The countless time you guys helped me throughout this project and give all your support, is really appreciable, a big thanks to you cronies.

Last but not the least, my deep and sincere gratitude to my family for their continuous and unparalleled love, care and constant support. Your encouragement, when the time got rough are much appreciated. I am grateful to my brother, Abhishek Nain, whose timely help and invaluable support works a lot more and I am forever indebted to my parents, especially my father Mr. Satish Kumar for giving me the opportunities and shows trust in me. They selflessly encouraged me to explore new directions in life and seek my own destiny. Finally, thanks also to anybody I forgot to mention who was involved in this work and contributed to its success.

Himani Nain

Himani Nain

LIST OF CONTENTS

| | | |
|---------------------------|-------|-------|
| 1) Introduction | ..... | 1 - 3 |
| 2) Review of Literature | ..... | 4-19 |
| 3) Material and Methods | ..... | 20-31 |
| 4) Results and Discussion | ..... | 32-42 |
| 5) Summary | ..... | 43-45 |
| 6) References | ..... | 46-49 |

INTRODUCTION

A
Project Report
On
“DECLINE OF SARS CoV-2”



Department of Microbiology
JANTA VEDIC COLLEGE, BARAUT (BAGHPAT) 250611

Supervisor-

Internal- Dr. Varun Tomer

External-Dr. Unendra Kumar

Submitted By-

Name-Himanshu Chauhan

Roll No.- 190867254004

Enroll. No.- M16101890



CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT

2021

Dr. Varun Tomer

M.Sc., M.phil., Ph.D



Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt.-Baghpat, U.P. India

Dated ...22-9-2021

CERTIFICATE

This is to certify that thesis entitled “**DECLINE OF SARS CoV-2**” submitted in the fulfillment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut-2500611, (U.P.) is an original record of bonafide research work carried out by **Mr. Himanshu Chauhan** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Mr. Himanshu Chuahan** worked here from 01st January, 2021 to 1st July., 2021.

I wish her all the success in future endeavors.

Date: 22-9-2021

Place :Baraut

(Dr. Varun Tomer)
Internal Supervisor

Date:- 20-July-2021

TRAINING CERTIFICATE

This is to certify that Mr. Himanshu Chauhan S/o Mr. Balender Singh Chauhan Student of M.Sc Microbiology has completed training in the Department of Microbiology, Sarita Diagnostic Centre, "Decline of SARS CoV-2" for a period of 3 months from 5th April 2021 to 5 July 2021, under our HOD guidance. His Performance has been satisfactory and submitted the project so as to fulfill all the requirement successful completion of the training.

He is a reliable sincere, hardworking and cooperative person and bears a good moral character. We wish him all the success for his bright future.

Authorized signatory

SARITA DIAGNOSTIC CENTRE
Dr. Unendra Kumar
(Computerised Pathology & Microbiology Laboratory)
Nagar Palika Market, Govt. Hospital Road,
Hanuman Tilla Shamli Dist. Muzaffarnagar

अधिकृत कलेक्शन सेन्टर:

डा० लाल पैथलैब्स लि०

Lab Equipped with

XP 100 Transasia Hematology Cell Counter

ERBA Chem 5 Plus Biochemistry Analyser

ACKNOWLEDGEMENT

First and foremost, I would like to praise and thank **God**, the almighty, who has granted countless blessing, opportunity and knowledge to me, so that I have been finally able to accomplish the thesis. I would like to extend my sincere and heartfelt obligation towards all the personages who have helped me in this endeavor. Without their active guidance, help, cooperation and encouragement; I would not have made headway in this project.

I would like to express my sincere gratitude to my advisor and mentor **Dr. Mahesh Kumar, Dr. Reena Tomar, Dr. Varun Tomer** Department of Microbiology, JV College, Baraut for their suggestions, motivation, enthusiasm and perpetual encouragement throughout this research. Their invaluable guidance helped me all the time during this research work.

Besides my advisor, I am deeply thankful to Dr. Unendra Kumar (Sarita Diagnostic Lab, Shamli) for his guidance, supervision and valuable suggestions. It was a great privilege and honor to work and study under his guidance.

I would also like to extend my gratitude to my dearest friends Sonia, Lokesh, Himani and Stuti for helping me in completing this work. The countless time you guys helped me throughout this project and give all your support, is really appreciable, a big thanks to you cronies.

Last but not the least, my deep and sincere gratitude to my family for their continuous and unparalleled love, care and constant support. Your encouragement, when the time got rough are much appreciated. Finally, thanks also to anybody I forgot to mention who was involved in this work and contributed to its success.



Himanshu Chauhan

CONTENTS

| | |
|------------------------------|-------|
| 1. Introduction..... | 01-02 |
| 2. Review of Literature..... | 03-08 |
| 3. Material and Methods..... | 09-35 |
| 4. Results & Discussion..... | 36-39 |
| 5. Summary..... | 40 |
| 6. Reference..... | 41-50 |

A
Project Report
On
“ TO STUDY THE DIAGNOSIS OF TYPHOID FEVER
BASED ON DIFFERENT METHODS ”



Department of Microbiology
Janta Vedic College, Baraut

Supervisor-

Internal- Dr. Varun Tomar

External-Dr. Ishpreet singh

Submitted By-

Name- Divya

Roll No.190867254005

Enroll. No.M16099934



Chaudhary Charan Singh University, Meerut
2021



Ph : 011-45066244
41574269

ARYA HOSPITAL

• CARE • CURE • COMFORT

(Approved by Delhi Govt.)



Ref. No. CHC/BPT./July
2021

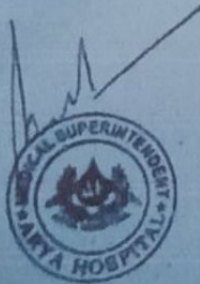
C-1/101, Pankha Road, Janak Puri, New Delhi-58
Email: arya_mks999@yahoo.co.in, Website : www.aryahospital.in

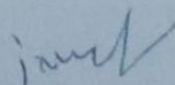
Date 18/07/2021

TRAINING CERTIFICATE

This is to certify that Miss. Divya D/o Mr. Jitendra Sharma Student of M.Sc. Microbiology has completed training in Arya Hospital C-1/101, Janakpuri New Delhi-58 "STUDY OF THE DIAGNOSIS OF TYPHOID BASED ON DIFFERENT METHODS" for a period of six months from 04 Jan 2021 to 30 June 2021 under the guidance of Dr. Ishpreet Singh MBBS. MD. Her performance has been satisfactory and submitted be project so as to fulfill all the requirement successful completion of the training.

She is the reliable. Sincere, hardworking and cooperative person and bears a good moral character. We wish her all the success for her bright future




Dr. Ishpreet Singh
MBBS, MD
Radio-Diagnosis
Registration No-22472

24Hrs. Emergency / Maternity / ICU / NURSERY / LAB X-RAY/ECHOCARDIOGRAPHY / ULTRASOUND

(CASHLESS FACILITY AVAILABLE)
NOT FOR MEDICO LEGAL PURPOSE

Dr. Varun Tomer

M.Sc., M.phil., Ph.D



Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt.-Baghpat, U.P. India

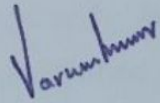
Dated 22/9/21

CERTIFICATE

This is to certify that thesis entitled “ **TO STUDY THE DIAGNOSIS OF TYPHOID FEVER BASED ON DIFFERENT METHODS** ” submitted in the fulfillment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut-2500611, (U.P.) is an original record of bonafide research work carried out by **Mrs. DIVYA** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Mrs. DIVYA** worked here from 4 Jan to 30 June .2021.

I wish her all the success in future endeavors.

Date: 20/9/-2021
Place :Baraut


(Dr. Varun Tomer)
Internal Supervisor

ACKNOWLEDGEMENT

First and foremost, I would like to praise and thank **God**, the almighty, who has granted countless blessing, opportunity and knowledge to me, so that I have been finally able to accomplish the thesis. I would like to extend my sincere and heartfelt obligation towards all the personages who have helped me in this endeavor. Without their active guidance, help, cooperation and encouragement; I would not have made headway in this project.

I would like to express my sincere gratitude to my advisor and mentor **Dr. Mahesh Kumar, Dr. Reena Tomar, Dr. Varun Tomar** Department of Microbiology, JV College, Baraut for their suggestions, motivation, enthusiasm and perpetual encouragement throughout this research. Their invaluable guidance helped me all the time during this research work.

Besides my advisor, I am deeply thankful to Dr. Ishpreet Singh (from Arya Hospital Janakpuri Delhi) for his guidance, supervision and valuable suggestions. It was a great privilege and honor to work and study under his guidance.

I would also like to extend my gratitude to my dearest friend Himani Nain for helping me in completing this work. The countless time you helped me throughout this project and give all your support, is really appreciable, a big thanks to you cronies.

Last but not the least, my deep and sincere gratitude to my family for their continuous and unparalleled love, care and constant support. Your encouragement, when the time got rough are much appreciated. I am grateful to My husband Ashu Bhardhwaj & My brother, Robin Sharma whose timely help and invaluable support works a lot more and I am forever indebted to my parents, especially my father Mr. Jitendra Sharma for giving me the opportunities and shows trust in me. They selflessly encouraged me to explore new directions in life and seek my own destiny. Finally, thanks also to anybody I forgot to mention who was involved in this work and contributed to its success.

Divya Bhardhwaj

TABLE OF CONTENTS

| | | |
|-------------------------------|-------|---------|
| Introduction | ..... | 1 - 2 |
| Aim & Objectives of the Study | ..... | 3 |
| Material and Methods | ..... | 4 - 14 |
| Review of Literature | ..... | 15 - 22 |
| Observation and Results | ..... | 22- 28 |
| Discussion | ..... | 29- 38 |
| Summary | ..... | 39- 45 |
| Bibliography | ..... | 46-50 |
| Reference | ..... | 51- 54 |

A
Project Report
On

“DIAGNOSIS OF SARS COVID-19”



Department of Microbiology

JANTA VEDIC COLLEGE, BARAUT (BAGHPAT) 250611

Supervisor-

Internal- Dr. Varun Tomer

External- Dr. Unendra Sharma

Submitted By-

Name- Lokesh Saini

Roll No.-190867254006

Enroll. No.- 19180890



CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT

2021

Dr. Varun Tomer

M.Sc., M.phil., Ph.D



Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt.-Baghpat, U.P. India

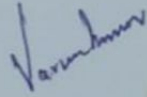
Dated 22/09/2021

CERTIFICATE

This is to certify that thesis entitled “**DIAGNOSIS OF SARS COVID-19**” submitted in the fulfillment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut-2500611, (U.P.) is an original record of bonafide research work carried out by **Mr. Lokesh Saini** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Mr. Lokesh Saini** worked here from 01st January, 2021 to 31st August, 2021.

I wish her all the success in future endeavors.

Date: 22/09/ 2021
Place: Baraut


(Dr. Varun Tomer)
Internal Supervisor

Date:- 20-July-2021

TRAINING CERTIFICATE

This is to certify that Mr. Lokesh S/o Mr. Birendra Kumar Student of M.Sc Microbiology has completed training in the Department of Microbiology, Sarita Diagnostic Centre, “**Dignosis of SARS covid 19**” for a period of 3 months from 5th April 2021 to 5 July 2021, under our HOD guidance. His Performance has been satisfactory and submitted the project so as to fulfill all the requirement successful completion of the training.

He is a reliable sincere, hardworking and cooperative person and bears a good moral character. We wish him all the success for his bright future.

Authorized signatory

SARITA DIAGNOSTIC CENTRE
Dr. Unendra Kumar
(Microbiologist)
(Computerised Pathology & Microbiology Laboratory)
Nagar Palika Market, Old Hospital Road,
Hanuman Tilla Shamli Dist. Muzaffarnagar



अधिकृत कलेक्शन सेन्टर:
डा० लाल पैथलैब्स लि०

Lab Equipped with
XP 100 Transasia Hematology Cell Counter
ERBA Chem 5 Plus Biochemistry Analyser

ACKNOWLEDGEMENT

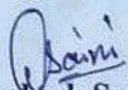
First and foremost, I would like to praise and thank **God**, the all mighty, who has granted countless blessing, opportunity and knowledge to me, so that I have been finally able to accomplish the thesis. I would like to extend my sincere and heartfelt obligation towards all the personages who have helped me in this endeavor. Without their active guidance, help, cooperation and encouragement; I would not have made headway in this project.

I would like to express my sincere gratitude to my advisor and mentor **Dr. Sheesh Pal Singh, Dr. Mahesh kumar, Dr Varun Tomer, Dr. Reena Tomer**, Department of Microbiology, JV College, Baraut for their suggestions, motivation, enthusiasm and perpetual encouragement throughout this research. Their invaluable guidance helped me all the time during this research work.

Besides my advisor, I am deeply thankful to Dr. Unendra Kumar (Sarita Diagnostic Lab, Shamli) for his guidance, supervision and valuable suggestions. It was a great privilege and honor to work and study under his guidance.

I would also like to extend my gratitude to my dearest friends Himanshu, Himani, Deepak, Arun, Sonia and Stuti for helping me in completing this work. The countless time you guys helped me throughout this project and give all your support, is really appreciable, a big thanks to you cronies.

Last but not the least, my deep and sincere gratitude to my family for their continuous and unparalleled love, care and constant support. Your encouragement, when the time got rough are much appreciated. Finally, thanks also to anybody I forgot to mention who was involved in this work and contributed to its success.


Lokesh Saini

CONTENTS

| | | |
|-------------------------|---|-------|
| 1. Introduction | : | 01-02 |
| 2. Review of Literature | : | 03-08 |
| 3. Material and Methods | : | 09-35 |
| 4. Results & Discussion | : | 36-39 |
| 5. Summary | : | 40 |
| 6. Reference | : | 41-50 |

A
Project Report
On

“TO EVALUATE THE PRESENCE OF METHECILLIN
RESISTANCE STAPHYLOCOCCUS AUREUS IN CLINICAL
SAMPLE
(PUS SAMPLE)”



DEPARTMENT OF MICROBIOLOGY
JANTA VEDIC COLLEGE, BARAUT

Supervisor-
Internal: Dr. Reena Panwar
External: Dr. Manish Sharma

Submitted By:
Name: Priya
Roll No: R190867254007
Enroll. No: M16102033



CHAUDHARY CHARAN SINGH UNIVERSITY, MEERUT, 2021

Dr. Reena Panwar

M.Sc., M. phil., Ph. D



☎ 01234-262130 (O)

Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt -Baghpat, U.P. India

Dated ...29/09/2021

CERTIFICATE

This is to certify that thesis entitled "To Evaluate The Presence of Methicillin Resistance *Staphylococcus aureus* in Clinical Sample (Pus Sample)" submitted in the fulfillment for the award of the degree of M.Sc. Microbiology in Department of Microbiology, J. V. College, Baraut-250611, (U.P.) is an original record of bonafide research work carried out by Ms. Priya under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. Ms. Priya worked here from 01st January 2021 to 30th June 2021.

I wish her all the success in future endeavors.

Reena

Dr. Reena Panwar
(Internal Supervisor)

Date: 29/09/2021
Place : Baraut



**PIONEER CENTRE OF BIOSCIENCES
FOR ADVANCED TRAINING AND RESEARCH**

Mohan Nagar, Ghaziabad, U.P.
Contact no: +91-9015076699; +91-996-802-3660
www.pioneerbioscience.com

Manish Sharma
PhD
or
No. AAD-2611

Phone: +91-9015076699
+91-9968023660
Email: manishatrey@hotmail.com
manishatrey@gmail.com

Issue: 30st June, 2021

TO WHOMSOEVER IT MAY CONCERN

This is to certify that *Ms. Priya*, a student of M.Sc. (Microbiology) from Mata Vedic College, Baraut, Baghpat completed her 6 months dissertation project on "**to Evaluate the Presence of Methicillin Resistance *Staphylococcus aureus* in Clinical Samples (Pus Samples)**". During this period, she learned the culture of bacteria on selected medium, screening of resistance strain using AST, extraction of DNA from bacterial cells, Gel electrophoresis and amplification of DNA using PCR. She has also learnt the use of bioinformatics tools to design primers.

She sincerely learned the theory and carried out all the experiments necessary to understand her work. I am quite happy about her work performance in the lab and wish her all the best in future endeavor.

Manish Sharma

Dr. Manish Sharma

ACKNOWLEDGEMENTS

First and foremost, praises and thanks to God, the almighty, for his showers of blessings throughout my research work to complete the research successfully. But success is attained with association of predecessors, teachers, family members, friends and colleagues. It is my privilege to acknowledge people who have supported me throughout the project work and helped me to reach this acme of investigation. I would like to express my deep and sincere gratitude to my esteemed and eminent advisor and mentor **Dr. Mahesh Kumar (Head), Dr. Reena Tomar and Dr. Varun Tomar**, Lecturer, Department of Microbiology, JV College, Baraut, Baghpat, Uttar Pradesh, for their critical suggestions, unstinted help, perpetual encouragement and invaluable guidance throughout this research. Their dynamics, vision, sincerity and motivation have deeply inspired me.

Besides my advisor, I also pay my special thanks to **Dr. Manish sharma** (Director, Pioneer Center of Biosciences, Mohan Nagar, Ghaziabad) who has taught me the methodology to carry out the research and to present the research works as clearly as possible. It was a great privilege and honor to work and study under his guidance. I would also like to extend my gratitude to my friends and lab mates, such an intelligent and humble buddies. The countless time you helped me throughout my complete research and give all their support and don't ask something in exchange, thanks a lot chums. I am extremely grateful to my parents for their love, prayers, caring and sacrifices for educating and preparing me for my future, all your efforts will gain something great in the near future. Your encouragement when the time got rough are much appreciated and duly noted. It was a great comfort and relief to know that you were willing to provide everything you can give even though I know that you have struggled a lot. Finally, thanks also to everybody I forgot to mention who was involved in this work and contributed to its success.

PRIYA

LIST OF CONTENTS

| | PAGE NO. |
|-------------------------------------|-----------------|
| ➤ INTRODUCTION | 1-4 |
| ➤ REVIEW OF LITERATURE | 5-31 |
| ➤ AIM AND OBJECTIVE OF STUDY | 32 |
| ➤ MATERIAL AND METHOD | 33-40 |
| ➤ RESULT AND DISCUSSION | 41-47 |
| ➤ SUMMARY | 48-50 |
| ➤ REFERENCES | 51-58 |

A
Project Report

On

**“TO ASESS DIFFERENT METHODS IN DIAGNOSIS HCV
INFECTION BY USING ELISA AND RAPID ANTI HCV TEST”**



**Department of Microbiology
Janta Vedic College, Baraut**

Supervisor-

Internal- Dr. Reena Panwar

External-Dr. Manoj Kumar

Submitted By-

Name- Sonia

Roll No.- 190867254008

Enroll. No.- M16102146



Chaudhary Charan Singh University, Meerut

2021

Dr. Reena Panwar

M.Sc., Ph.D.



Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt -Baghpat, U P India

Dated 27/09/2021

CERTIFICATE

This is to certify that thesis entitled "**TO ASSESS DIFFERENT METHODS IN DIAGNOSIS HCV INFECTION BY USING ELISA AND RAPID ANTI HCV TEST**" submitted in the fulfillment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut - 250 611, (U.P.) is an original record of bonafide research work carried out by **Sonia** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Sonia** worked here from 01st January, 2021 to 30th June, 2021.

I wish her all the success in future endeavors.

Date: 27/09/2021
Place : Baraut

Reena
Dr. Reena Panwar
(Internal Supervisor)



REF: - RMCH&RC/HR /JULY/2021

Date: - 09-July-2021

TRAINING CERTIFICATE

This is to certify that Ms. Sonia D/o Mr. Pushkar Singh student of M.Sc. Microbiology has completed training in the department of Microbiology, Rama Medical College Hospital and Research Centre, "TO ASSESS DIFFERENT METHODS IN DIAGNOSIS HCV INFECTION" for a period of 3 months from 1st April 2021 to 30th June 2021, under our HOD guidance. Her Performance has been satisfactory and submitted the project so as to fulfil all the requirement successful completion of the training.

She is a reliable, sincere, hardworking and cooperative person and bears a good moral character. We wish her all the success for her bright future.


Authorized signatory
Rama Medical College,
Hospital & Research Centre,
Hapur



ACKNOWLEDGEMENT

I would like to extend our heartiest thanks with a deep sense of gratitude and respect to all those who provides me immune help and guidance during the completion of the project. I give thanks to God for protection and ability to do work.

I am so grateful to express my sincere gratitude to Dr. Shispal Singh (Coordinator, Department of Microbiology, Janta Vedic College), Dr. Mahesh Kumar and Dr. Varun Kumar Tomer, Department of Microbiology, Janta Vedic College, Baraut (Baghpat) for his valuable suggestion and blessing, unstinted help and perpetual encouragement throughout my M.Sc work.

I am also deeply thankful to Dr. Reena Tomar, Department of Microbiology, Janta Vedic College, Baraut (Baghpat) for her immense help, encouragement and suggestion.

My project kept marching ahead with valuable suggestion by Dr. Manoj Kumar (Assistant prof. Department of Microbiology, Rama Medical College, Hospital and Research Center, Hapur). I am deeply thankful for his guidance and encouragement throughout the work.

I am thankful to Dr. Yasmeen (HOD, Department of Microbiology at Rama Medical College and Hospital and Research Center, Hapur), Miss. Chanchal Chauhan (Demonstrator-Microbiology) Mr. Sandeep Mehra (Lab Tachnician) for their guidance, contribution and support in my whole work.

I am extremely grateful to my parents for their love, prayers, care and being a constant source of inspiration and motivation. Also I express my thanks to my sisters and brother for their support and valuable prayers. My special thanks goes to my friends, Stuti Kaushik and Vaishali Dhama for helping me in completing this work in every possible way and hope to keep up our collaboration in the future.

LIST OF CONTENTS

| | |
|----------------------------------|-------------|
| 1. Introduction |1-2 |
| 2. Review of Literature |3-8 |
| 3. Materials and Methods |9-20 |
| 4. Results and Discussion | 21-30 |
| 5. Summary |31-32 |
| 6. References |33-38 |

A
Project Report

On

“Isolation and Identification of Bacterial Pathogens in the
Wound Infection and assess the Antimicrobial Susceptibility
pattern of the Isolates”



Department of Microbiology
Janta Vedic College, Baraut

Supervisor-

Internal- Dr. Reena Panwar

External-Dr. Manoj Kumar

Submitted By-

Name- Stuti Kaushik

Roll No.- 190867254009

Enroll. No.- M16102153



Chaudhary Charan Singh University, Meerut

2021

Dr. Reena Panwar

M.Sc., Ph.D.



☎ 01234-282136 (0)

Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt.-Baghpat, U.P. India

Dated 29/09/2021

CERTIFICATE

This is to certify that thesis entitled "**Isolation and Identification of Bacterial Pathogens in the Wound Infection and assess the Antimicrobial Susceptibility Pattern of the Isolates**" submitted in the fulfillment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut - 250 611, (U.P.) is an original record of bonafide research work carried out by **Stuti Kaushik** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Stuti Kaushik** worked here from 01st January, 2021 to 30th June, 2021.

I wish her all the success in future endeavors.

Date: 29/09/2021
Place : Baraut

Reena
Dr. Reena Panwar
(Internal Supervisor)



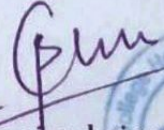
REF: - RMCH&RC/HR /JULY/2021


Date: - 09-July-2021

TRAINING CERTIFICATE

This is to certify that Ms. Stuti Kaushik D/o Mr. Devender Kaushik student of M.Sc. Microbiology has completed training in the department of Microbiology, Rama Medical College Hospital and Research Centre, "ISOLATION AND IDENTIFICATION OF BACTERIAL PATHOGEN IN WOUND INFECTION AND ASSESS THE ANTIMICROBIAL SUSCEPTIBILITY PATTERN OF THE ISOLATES" for a period of 3 months from 1st April 2021 to 30th June 2021, under our HOD guidance. Her Performance has been satisfactory and submitted the project so as to fulfil all the requirement successful completion of the training.

She is a reliable, sincere, hardworking and cooperative person and bears a good moral character. We wish her all the success for her bright future.


Authorized signatory
Rama Medical College,
Hospital & Research Centre,
Hapur



ACKNOWLEDGEMENT

First, foremost praises and thanks to God, the Almighty for his showers of blessing throughout my project work to complete research successfully. It is my privilege to acknowledge people who have supported me throughout the project work and helped me to complete it successfully.

I would like to thank Dr. Shispal Singh (Co-ordinator, Department of Microbiology, Janta Vedic College), Dr. Mahesh Kumar (Assistant Professor) and Dr. Varun Kumar Tomer (Assistant Professor) for their constant support, I'm glad that they always motivated me and showed me the correct path. I would like to express my sincere gratitude to my advisor and mentor Dr. Reena Panwar (Assistant Professor) for the continuous support of my study and research for her patience, motivation, enthusiasm and immense knowledge. Her guidance helped me in all the time of this project work and writing of this thesis.

Beside my advisor, I am deeply thankful to Dr. Manoj Kumar (Assistant prof. Microbiology of Rama Medical College and Hospital) for his guidance, supervision and valuable suggestion. It was a great privilege and honor to work and study under his guidance. My sincere thanks to Dr. Yasmeen (HOD, Department of Microbiology at Rama Medical College and Hospital) and Mrs. Zenab Naseem (Demonstrator-Microbiology) for their guidance and support in my whole project work.

I also want to thank my friends Sonia and Vaishali Dhama for the stimulating discussion, for the sleepless nights we were working together and for all the fun we had in last few months. Last but not the least, I am extremely grateful to my family who always being my constant support and especially my Grand-mother Mrs. Daulti Devi and my father Mr. Devender Kaushik for their endless love, support and encouragement.

Finally, thanks to everybody whom I forgot to mention who was involved and contributed in my work.

LIST OF CONTENTS

| | |
|----------------------------------|------------|
| 1. Introduction |1-2 |
| 2. Review of literature |3-11 |
| 3. Materials and Methods |12-28 |
| 4. Results and Discussion |29-41 |
| 5. Summary |42-43 |
| 6. References |44-49 |

A
Project Report
On
“Prevalence of UTI in Different Age Groups and their
Antimicrobial Susceptibility Pattern”



Department of Microbiology
Janta Vedic College, Baraut

Supervisor-

Internal- Dr. Reena Panwar

External- Dr. Manoj Kumar

Submitted By-

Name- Vaishali Dhama

Roll No.- 190867254010

Enroll. No.- M16102182



Chaudhary Charan Singh University, Meerut

2021

Dr. Reena Panwar

M.Sc., Ph.D.



Assistant Professor
Deptt. of Microbiology
Janta Vedic College
Baraut - 250 611
Distt.-Baghpat, U.P. India

Dated 27/09/2021

CERTIFICATE

This is to certify that thesis entitled “**Prevalence of UTI in Different Age Groups and their Antimicrobial Susceptibility Pattern**” submitted in the fulfillment for the award of the degree of **M.Sc. Microbiology** in Department of Microbiology, J. V. College, Baraut - 250 611, (U.P.) is an original record of bonafide research work carried out by **Vaishali Dhama** under my supervision and no part of this thesis has been submitted for any other degree or diploma to any other institute or university. **Vaishali Dhama** worked here from 01st January, 2021 to 30th June, 2021.

I wish her all the success in future endeavors.

Date: 27/09/2021
Place : Baraut

Reena
Dr. Reena Panwar
(Internal Supervisor)




REF: - RMCH&RC/HR /JULY/2021

Date: - 09-July-2021

TRAINING CERTIFICATE

This is to certify that Ms. Vaishali Dhama D/o Mr. Shaukeen Dhama student of M.Sc. Microbiology has completed training in the department of Microbiology, Rama Medical College Hospital and Research Centre, **"PREVALENCE OF UTI IN DIFFERENT AGE GROUPS AND THEIR ANTIMICROBIAL SUSCEPTIBILITY PATTERN"** for a period of 3 months from 1st April 2021 to 30th June 2021, under our HOD guidance. Her Performance has been satisfactory and submitted the project so as to fulfil all the requirement successful completion of the training.

She is a reliable, sincere, hardworking and cooperative person and bears a good moral character. We wish her all the success for her bright future.


Authorized signatory
**Rama Medical College,
Hospital & Research Centre,
Hapur**



ACKNOWLEDGEMENTS

First and foremost, praises and thanks to **God**, the almighty, for his showers of blessings throughout my research work to complete the research successfully. But success is attained with association of predecessors, teachers, family members, friends and colleagues. It is my privilege to acknowledge people who have supported me throughout the project work and helped me to reach this acme of investigation.

It gives me an extremely great pleasure to express heartfelt thanks to **Dr. Shishpal Singh**, Co-ordinator, Department of Microbiology, JV College, Baraut, Baghpat, Uttar Pradesh, for their blessings and valuable suggestions.

I would like to express my deep and sincere gratitude to my esteemed and eminent supervisor **Dr. Reena Panwar**, advisor and mentor **Dr. Mahesh Kumar and Dr. Varun Kumar Tomer**, Lecturer, Department of Microbiology, JV College, Baraut, Baghpat, Uttar Pradesh, for their critical suggestions, unstinted help, perpetual encouragement and invaluable guidance throughout this research. Their dynamics, vision, sincerity and motivation have deeply inspired me.

Besides my advisor, I also pay my special thanks to **Dr. Manoj Kumar** (Assistant Professor Microbiology of Rama Medical College, Hospital and Research Centre, Hapur) who has taught me the methodology to carry out the research and to present the research works as clearly as possible. It was a great privilege and honor to work and study under his guidance. I am also grateful to **Dr. Yasmeen** (HOD, Department of Microbiology of Rama Medical College, Hospital and Research Centre, Hapur) and **Mrs. Zenab Naseem** (Demonstrator-Microbiology) for their guidance, contribution and support in my whole project work.

I would also like to extend my gratitude to my friends and labmates **Sonia and Stuti Kaushik**, such an intelligent and humble buddies. The countless time you helped me throughout my complete research and give all their support and don't ask something in exchange, thanks a lot chums.

I am extremely grateful to my parents for their love, prayers, caring and sacrifices for educating and preparing me for my future, all your efforts will gain something great in the near future. Your encouragement when the time got rough are much appreciated and duly noted. It was a great comfort and relief to know that you were willing to provide everything you can give even though I know that you have struggled a lot. Finally, thanks also to anybody I forgot to mention who was involved in this work and contributed to its success.

Vaishali

Vaishali Dhama

LIST OF CONTENTS

| | |
|--------------------------|------------|
| 1. Introduction |1-2 |
| 2. Review of Literature |3-11 |
| 3. Material and Method |12-25 |
| 4. Result and Discussion |26-40 |
| 5. Summary |41 |
| 6. References |42-47 |