iJRASET
International Journal For Research in Applied Science and Engineering Technology



INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Volume: 12 **Issue:** III **Month of publication:** March 2024

DOI: https://doi.org/10.22214/ijraset.2024.59251

www.ijraset.com

Call: 08813907089 | E-mail ID: ijraset@gmail.com

International Journal for Research in Applied Science & Engineering Technology (IJRASET)
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 12 Issue III Mar 2024- Available at www.ijraset.com

Smart Medical Health Prediction System Application Using Data Mining

Sima Nikhade[1], Prof. Mrunalini P. Moon[2], Rani Dhanjode[3], Riya Dey[4], Pratiksha Selokar[5], Pallavi Karemore[6], Prof. Dr. Anil Kushwaha[7]

[1, 3, 4, 5, 6]*Student Dept. Information Technology, Nagpur Institute of Technology, Nagpur, Maharashtra, India*
[2]*Professor Dept. Information Technology, Nagpur Institute of Technology, Nagpur, Maharashtra, India*
[7]*Scientist (R&D), Nagpur, Maharashtra, India*

Abstract: ***This project can benefit from the use of data mining techniques in a variety of fields, including science, medicine, and education. Because of laws and computer accessibility, a lot of data is now available in the medical and health care sectors. It is no longer necessary to handle such a large amount of data at once because of the significant advancements in computer technology made by modern technology. Evaluating data mining methods for clinical and healthcare applications is one of the paper's main goals, which aims to facilitate informed decision-making.***

In the world of computers, this well-known and potent technology is highly sought after. It is a branch of computer science that creates new research and findings from data that is already available in various databases. It extracts new patterns from massive data sets and the knowledge associated with these patterns by utilizing Artificial Intelligence, machine learning, and database management techniques. This method can be used to extract data automatically or semi-automatically. Clustering, forecasting, path analysis, and predictive analysis are some of the various parameters used in data mining.

I. INTRODUCTION

The health sector has grown significantly in the last few years. The importance of this technique in the medical field has increased significantly. An annual production of five terabytes of data might occur in a care hospital, according to calculations. We place our health concerns below the plethora of other problems we deal with on a daily basis. To address this issue, we developed an intuitive website that allows people to get a diagnosis whenever they'd like, from the comfort of their own homes. We also offer you the opportunity to make an appointment for a consultation with the physician to discuss health-related concerns and receive an accurate diagnosis.

The Health Prediction system is an online consultation and end-user support project. Here, we suggest a system that makes use of an online intelligent health care system to give users immediate advice on health-related matters. The disease or illness linked to those systems, along with their diverse symptoms, are fed into the system.

One method used to analyze vast amounts of data is data mining. The benefits of combining clinical data warehousing and data mining for each Clinical Predictions subfield's administrative, clinical, research, and instructional aspects were also covered. Numerous issues related to data mining can be investigated in the context of health prediction. In Data Mining Technique we used following process:

1) Data Cleaning
2) Data Integration
3) Data Selection
4) Data Transformation
5) Data Mining
6) Pattern Evaluation

II. LITERATURE SURVEY

N. Sushma, S. S. Greeshma, S. Manasa, S. V. Bhaskar, and A. Arulanandam these author research on: The digital technology era demands the world to provide an excellent health system, in order to ensure the community to be alive and healthy. H. B. F. David and S. A. Belcyk these author research on: In day-to-day life many factors that affect a human heart.

©IJRASET: All Rights are Reserved

Many problems are occurring at a rapid pace and new heart diseases are rapidly being identified. C. Gazeloglu these author research on: According to the World Health Organization (WHO), cardiovascular diseases (CVDs), commonly known as heart diseases, are the leading causes of death globally. Boukenze Basma these author research on: Kidney failure disease is being observed as a serious challenge to the medical field with its impact on a massive population of the world. R. Sujatha and Anitha Nithya these author **research on:** Data Mining is one of the most vital and motivating area of research with the objective of finding meaningful information from huge data sets.

III. PROBLEM STATEMENT

Data Collection: The application collects a vast amount of medical data from various sources, including electronic health records (EHRs).
Data Preprocessing: Before applying data mining algorithms, the collected data goes through a preprocessing phase.
Data Mining Techniques: Various data mining techniques and machine learning algorithms are employed to discover meaningful patterns, relationships, and trends in the healthcare data.
Predictive Analytics: Once the data is processed and patterns are identified, the application can make predictions and recommendations for individual patients based on their specific health conditions and medical history.
Disease Risk Assessment: The application can assess an individual's risk of developing certain diseases.
Personalized Health Recommendations: By analyzing patient data, the application can provide personalized health recommendations such as diet plans, exercise routines, and lifestyle modifications to improve overall well-being and reduce health risks.

IV. AIMS & OBJECTIVE

A. Aim:

This project aims to predict the disease on the basis on the user information.
The project is designed in such a way that the system takes information from the user as input and produces output.

B. Objective

we use some intelligent data mining techniques to guess the most accurate illness that could be associated with any information.
Anyone have any disease that application can be find their solution.

V. PROPOSED METHODOLOGY

A "Smart Medical Health Prediction Application Using Data Mining" is a comprehensive system that aims to predict medical conditions, diseases, or health-related outcomes for individuals based on their historical health data, lifestyle, genetics, and other relevant factors. Below is a proposed outline for such a system:

1) *Data Collection and Integration:* Gather medical data from various sources such as electronic health records (EHRs), wearable devices, medical imaging, genetic testing, and lifestyle data.
2) *Data Mining and Feature Selection:* Apply data mining techniques such as classification, regression, clustering, and association rule mining to identify patterns and correlations within the data.
3) *Predictive Modeling:* Build machine learning models for specific health predictions, such as disease diagnosis, risk stratification, prognosis, or treatment response prediction.
4) *User Interface and Interaction:* Design an intuitive and user-friendly interface for patients and healthcare professionals to access the application.

In this project we are used different types of modules to predict disease and health.

a) Module Name:

- User Registration
- Get the data from the database
- Use Organized data from the database

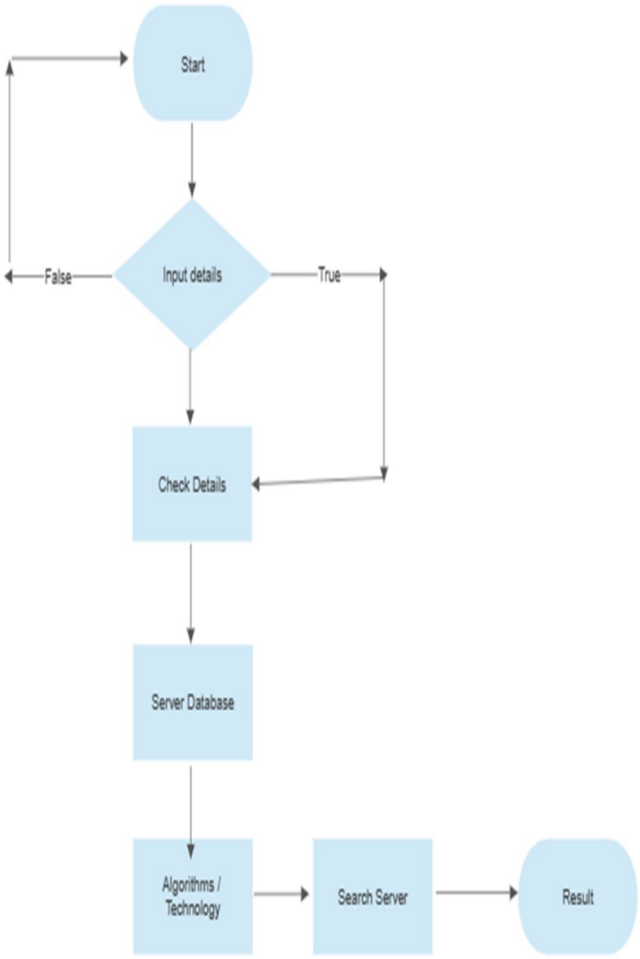
ISSN: 2321-9653; IC Value: 45.98; SJ Impact Factor: 7.538
Volume 12 Issue III Mar 2024- Available at www.ijraset.com

b) Using Technology:

- Python
- PHP
- MySQL
- AI
- ML
- DS

c) Algorithms:

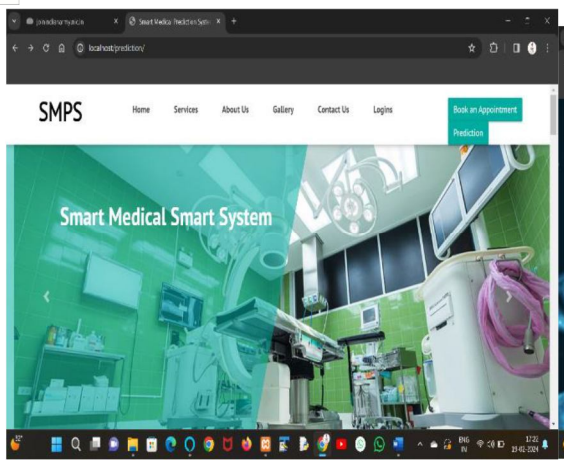
- Clustering
- K means
- Decision Tree.



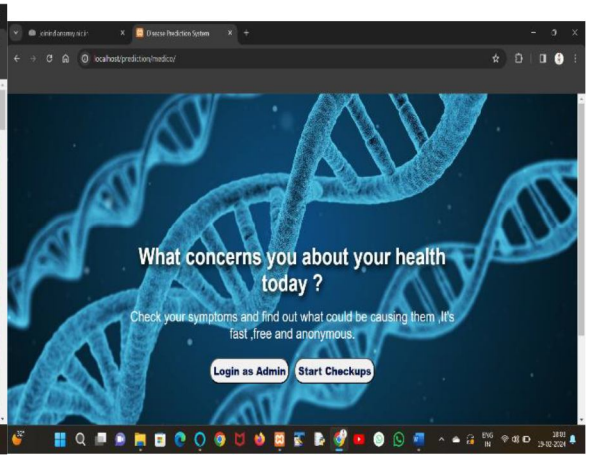
VI. RESULT AND ANALYSIS

The result of the proposed system will be disease and the level of accuracy with which the patient is currently being treated. As the data are analyzed by following the steps of the Information Access process based on the accuracy level of a particular disease will be based on a variety of factors such as the patient's medical history, age, gender and much more. The following data mining result will be used to assist clinical physicians to be able to treat the patient depending on the diseases with high accuracy.

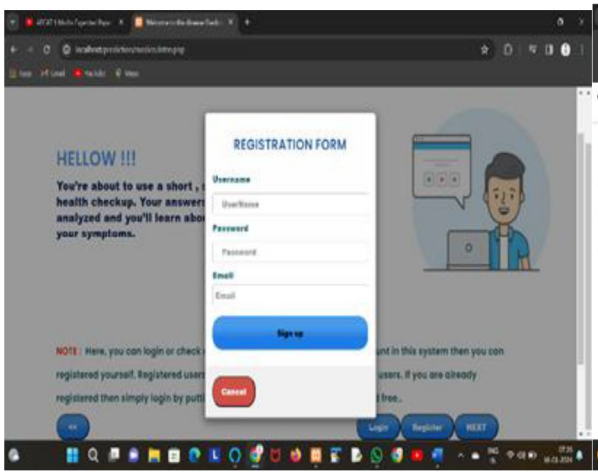
©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



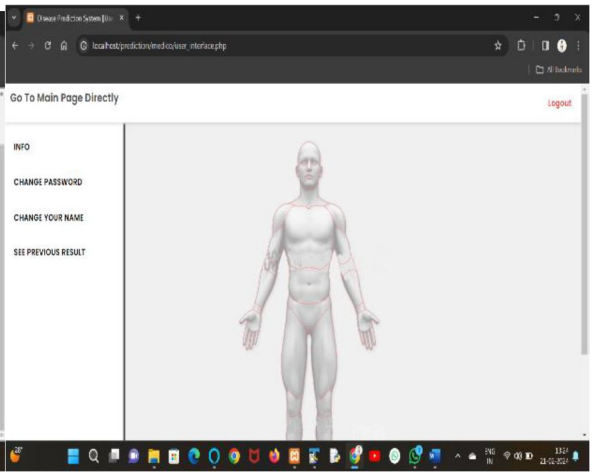
Step 1:- Click on Prediction.



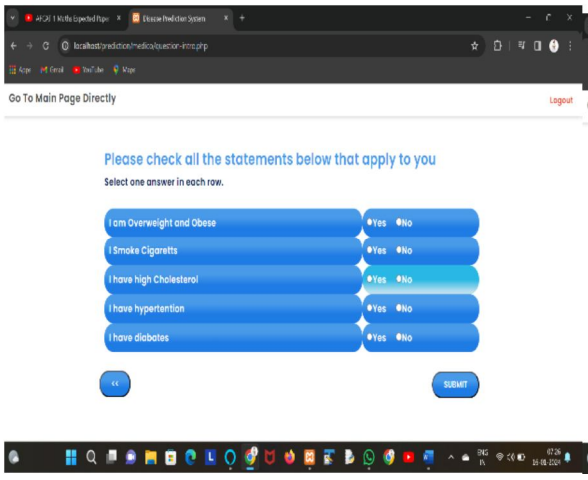
Step 2:- Start Checkup.



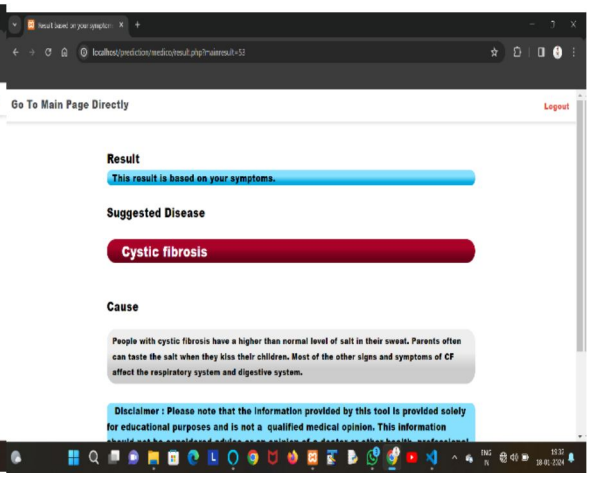
Step 3:- Do Registration.



Step 4:- Login & Start checkup.



Step 5:- Answer the Questions Give to you.



Step 6:- Final result will show on Your screen.

VII. CONCLUSION

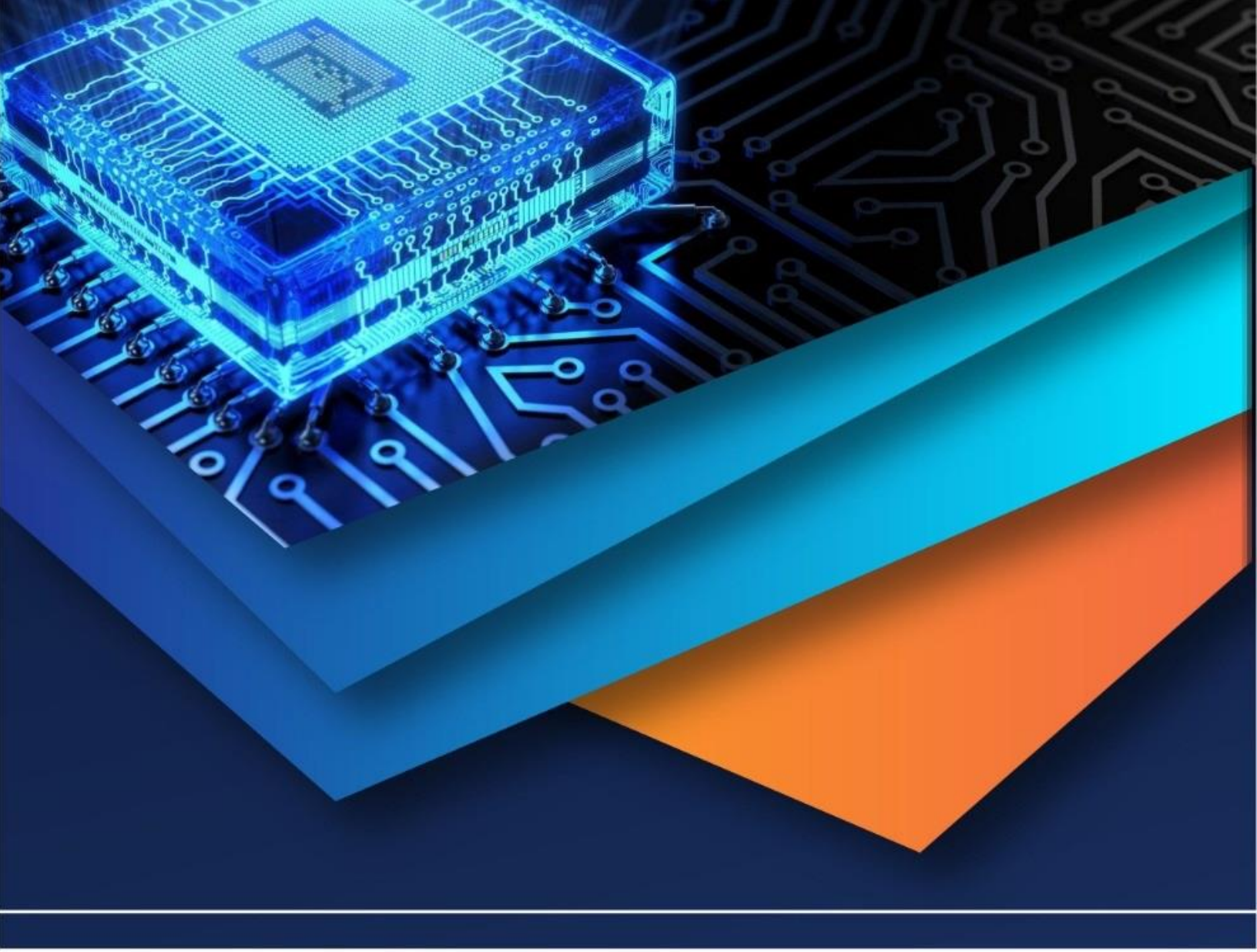
The proposed system aims to extract hidden knowledge from historical data by applying the Naïve Byes algorithm to prepare datasets. It is possible to predict smart health only if the system reacts in that manner.

Association Rule Mining will be used to generate the final report after these datasets and the incoming queries are compared. Patients will receive a diagnosis more quickly because this suggested methodology will produce accurate and efficient results because it will be applied to actual historical data. Using the advice offered here, this system will also instruct users on how to stay in shape and stay healthy. One potential area for improvement could be the integration of this web application with an Android app.
Using the advice offered here, this system will also instruct users on how to stay in shape and stay healthy. One potential area for improvement could be the integration of this web application with an Android app.
Users will be able to access this on a mobile device, and there is potential for even greater use. Additionally, there is a feature that allows patients to speak with the concerned doctors directly by bringing them online via chat. The cancer analysis modules can be combined to determine the proximity of the cancer-affected individual. As a result, this web application will become logically predictable.

REFERENCES

[1] MS Prasad Babu, M. Ramjee, Somesh Katta and K. Swapna, "Implementation of partitional clustering on ILPD dataset to predict liver disorders", Software Engineering and Service Science (ICSESS) 2022 7th IEEE International Conference on, pp. 1094-1097, 2022.
[2] Abeer Y. AI-Hyari, Ahmad M. Al-Taee and Majid A. Al- Taee, "Diagnosis and classification of chronic renal failure utilizing intelligent data mining classifiers", International Journal of Information Technology and Web Engineering (IJITWE), vol. 9, no. 4, pp. 1-12, 2019.
[3] K. R. Lakshmi, Y. Nagesh and M. Veera Krishna, "Performance comparison of three data mining techniques for predicting kidney dialysis survivability", International Journal of Advances in Engineering & Technology, vol. 7, no. 1, pp. 242, 2018.
[4] Veenita Kunwar, Khushboo Chandel, A. Sai Sabitha and Abhay Bansal, "chronic kidney disease analysis using data mining classification techniques", Cloud System and Big Data Engineering (Confluence) 2016 6th International Conference, pp. 300-305, 2021
[5] Manish Kumar, "Prediction of chronic kidney disease using random forest machine learning algorithm", International Journal of Computer Science and Mobile Computing, vol. 5, no. 2, pp. 24-33, 2016.
[6] P. Rajeswari and G. Sophia Reena, "Analysis of liver disorder using data mining algorithm", Global journal of computer science and technology, 2015.
[7] Yunlong Gu, Robert LD. 2009. Grossman. Sector, public data storage and sharing system. future Computer Systems, 20 May 2009.
[8] James Broberg, Rajkumar Buyya, Tari. 2009. Meta CDN: Commitments to the delivery of high-performance content. Journal of Network and Computer Applications 32, 1012--1022.
[9] Mark W. Storer Kevin G D D. E. Long Ethan L. Miller (2008). October 31, 2008, Fairfax, Virginia, USA. 2008.
[10] Lehpamer (2010), Basic Network Transmission, Microwave Transmission Networks.
[11] A. M., Rahman, & R. M. Rahman (2013), E-Negotiation for Resource Allocation in Grid Computing. International Journal of Grid and Effective Computer.
[12] J. M. A., Calero, & J. G., Aguado, J. G. (2015). Comparative analysis of cloud computing infrastructure.
[13] J., Han, J., M., Kamber, & L., Pei (2011). Data mining: concepts and strategies: concepts and strategies. [13] August (2010). Ordinal Phase Data Analysis, Wiley Series on Possible and Statistics.
[14] K. M., Chandy & C. H., Sauer (1978). Limited Methods for Analyzing Network Models in Computer System Rows.

©IJRASET: All Rights are Reserved | SJ Impact Factor 7.538 | ISRA Journal Impact Factor 7.894 |



10.22214/IJRASET

45.98

IMPACT FACTOR: 7.129

IMPACT FACTOR: 7.429

INTERNATIONAL JOURNAL FOR RESEARCH

IN APPLIED SCIENCE & ENGINEERING TECHNOLOGY

Call : 08813907089 (24*7 Support on Whatsapp)