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## Lokmanya Tilak and Shudda Panchang (ALMANAC)

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**Abstract:** Lokmanya Bal Gangadhar Tilak was one among the few jewels that were born when India was under the control of the British. He was the soul always worried and strived for the upliftment of country and country's people. He contributed his intelligence, knowledge and devotion not only in strengthening Indian studies but also in Vedic science. In the present paper, the researcher has attempted to provide clarification on the multi-faceted personality of Lokmanya Tilak in attaining the ShuddaPanchang. He started various campaigns and organized various movements to bring change. Through this paper, the researcher has tried to provide more useful information based on different perspectives and the circumstances of Lokmanya Bal Gangadhar Tilak. In addition to this, it clarifies Tilak's motto behind the formation of an observatory.

**Keywords:** Intelligence, Lokmanya Tilak, love for mathematics, Vedic science, Sanskrit pandit, ShuddaPanchang, Almanac, accurate calculations.

### INTRODUCTION

From childhood itself, Lokmanya Tilak had developed an interest in Mathematics, social science, Sanskrit and some other subjects. He was from the Chitpavan Brahmin family and his father, i.e., Gangadharpant was a teacher by profession and scholar of Sanskrit. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak the Visionary", Tilak Maharashtra Vidyapeeth, Pune 7. By following the footsteps, and guidelines of his father, Lokmanya Tilak developed an interest for Sanskrit. Lokmanya Tilak learned and developed all expertise at home. Lokmanya Tilak's was a person holding a sharp memory, and he answers quickly even before the teacher complete the question.

Lokmanya Tilak's family background, cultural impact, and the ability to perform in-depth study were the facts behind his great thoughts. Since childhood, Lokmanya Bal Gangadhar Tilak proved his responsive nature wonderfully. He followed all the instructions and guidelines given by his father. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak the Visionary", Tilak Maharashtra Vidyapeeth, Pune 7. During school, Lokmanya Tilak has developed certain skills to earn the command over the subject. He thought that reading was the process of understanding and not remembering. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak the Visionary", Tilak Maharashtra Vidyapeeth, Pune 7.

He was more eager to earn knowledge than notes. He memorised the numbers and used to solve all the examples in mathematics, orally, without a notebook. Lokmanya Tilak loved to take challenges and fulfill it by using his intelligence and expertise. When Lokmanya was there was one incidence happened that describes his proficiency in arithmetic. Gangadharpant gave a very knotty arithmetic problem to solve, Tilak solved that tactfully and won the prize. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak the Visionary", Tilak Maharashtra Vidyapeeth, Pune 7.

### STATEMENT OF THE PROBLEM

The statement of the problem is "LOKMANYA TILAK AND SHUDDA PANCHANG (ALMANAC)".

### OBJECTIVES

- To find out the pioneering efforts made by Lokmanya Tilak for obtaining accurate calculations for almanac
- To understand the insights on previous methods of almanac calculations.
- To understand the benefits of Tilak's ShuddaPanchang in today's world
- To find out Lokmanya Tilak's thoughts for starting an observatory in Pune

### BACKGROUND OF LOKMANYA TILAK AND SHUDDA PANCHANG (ALMANAC)

There were thousands of Indian brave hearts and worriers had given their contribution in making the country free from the British rule. They did the long and hard struggle for the country's freedom. Besides this, they did a lot of contributory work in the development of land. Lokmanya Tilak was one among them, who had contributed a lot physically, economically and mentally. The information was available in the form of books, newspaper, literature and others. Lokmanya Bal Gangadhar Tilak has provided more useful insights to improve the country's condition in all sense. He was a person who dedicated his life and sacrificed family only for the nation.

While understanding the various facts of Lokmanya Tilak and his contributory acts, the researcher found that he was a person who used his expertise, knowledge for the secure future of the nation. Lokmanya Tilak was a symbol of immense hardship and was the cause behind the great literature and panchang. He created awareness in the society by connecting them with ancient and historical stories. He tried to inspire masses to participate in the battle.

Lokmanya Tilak was a person with great visionary, and he always believed in action. Besides, he was a strategic thinker, has good visionary and a big picture for the future. He was born to work for the nation, his talent and keen interest in various subjects helped him to perform several but major contributory work. His interest in astrology, arithmetic and mathematics draws him to play a pioneering work for an almanac. While doing graduation, he was influenced strongly by western thinkers and made him realize the need for an accurate calculation for almanac.

We found that even today, his pioneered work helps us in making various decisions. We found that, even in today's world, almanac calculations have multiple angles and views and gives to form different 'panchang' or almanac. Dr. Tilak D. J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 28. Lokmanya Tilak insisted that a panchang should be a mirror of the sky, and by using the mathematical calculations, it is easy to provide the positions of the planets and constellations as they are observed. Lokmanya Tilak appealed to the scholars to adopt the method of Drukpratyayi (calculate what you see) mathematics. But authorities denied his thoughts and views.

While going through various literature available on Tilak, we found that Lokmanya Tilak had great likings for the innate mathematical and profound capabilities astrological. He used his expertise in Astro-mathematics and an innovative concept, to measure the period of the Veda. Dr. Tilak D. J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 26.

#### **METHOD USED IN THE PRESENT RESEARCH:**

To understand the pioneering efforts made by Lokmanya Tilak for obtaining accurate calculations for almanac, the researcher studied a lot of literature available on Lokmanya Bal Gangadhar Tilak. The researcher has collected the detailed understanding of every fact of Lokmanya Bal Gangadhar Tilak and his contribution to the formation of ShuddaPanchang. For information collection, the researcher used various books, research papers, and other forms of literature. Also, the researcher held several interactive sessions with Tilak's family members. The method used in the current research was descriptive and historical. It was based solely on the available secondary data. The researcher has collected that data for research purpose. Also, we used the base of journals, newspapers, magazines, and scientific reports, etc. We have performed proper validation and testing of obtained data.

#### **NEED AND IMPORTANCE OF RESEARCH**

To understand the contribution of Lokmanya Tilak in the formation of ShuddaPanchang (Almanac), the researcher has propagated knowledge through various resources like writings, internet, websites and some other forms. Based on the various sources, the researcher has presented a clear picture of Lokmanya Tilak.

1. To understand the contribution of various experts obtaining scientific calculations for almanac
2. To understand the various ancient methods of almanac calculations
3. To get to know the benefits of Tilak's ShuddaPanchang in today's world
4. To find out Lokmanya Tilak's thoughts for starting an observatory in Pune

#### **IMPLEMENTATION OF RESEARCH METHODOLOGY**

Here, for the research purpose, the researcher has used primary and secondary data available in the form of literature and internet resources. Also, the researcher took the support and guidance from the research guide. To make the clear understanding of Tilak's life and his contribution to the formation of ShuddaPanchang, the researcher has preferred various systems. Here, the researcher has preferred the secondary data that was in published and unpublished form. Apart from this, the researcher has collected some great and essential information from the primary data sources. Here the researcher followed the survey method of data collection.

In the present study, the researcher has tried to provide insights on to Lokmanya Bal Gangadhar Tilak and ShuddaPanchang (ALMANAC). Here, the researcher kept the scope of research very limited and was based on the survey method. For the implementation of the survey method, the researcher selected a few individuals from the Lokmanya Bal Gangadhar Tilak family. This survey method was chosen to cross-verify the authenticity of the obtained data. Besides this, we followed the mentioned research methodology and received the appropriate information about the same. Although for the sampling purpose, the researcher has selected the respondents and obtained specific knowledge about the research problem.

## OUR FINDINGS

After obtaining the entire data on the Lokmanya Bal Gangadhar Tilak, the researcher processed the information further. Here, the researcher has edited, organized, and interpreted for the research purpose. Also, we had performed pre-testing and verification of the data by using various procedures and techniques. We performed data validation by taking the support of the survey method and fundamental data collection procedures. Through the entire study, we received the appropriate understanding of the following mentioned information about Lokmanya Bal Gangadhar Tilak.

### Contribution of Tilak in obtaining the accurate calculation for an almanac

Lokmanya Bal Gangadhar Tilak was a person who owned a grip on various concepts and critics. His keen understanding and power of conceptualization helped him in setting long-term visionary thoughts. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune. Through this research paper, the researcher looked back at the contributory act of Lokmanya Bal Gangadhar Tilak in obtaining ShuddaPanchang.

While performing studies, we found that, Lokmanya Bal Gangadhar Tilak made pioneering efforts for accurate calculation in an almanac. The various characteristics and features of Tilak's personality were responsible for this. Also, the researcher has found that the various almanacs used in today's world, are based on the reckoning time, and prepared by using the Nautical Almanac. As it was believed that, Nautical Almanac gives the perfect impression. While performing the research, we found that Tilak's fundamental motto behind the contributory act in Almanac was to facilitate and ease the time spent to understand the time predictions.

### Ancient Methods of Almanac Calculations

While performing the research, the researcher has gone through the literature available not only on Lokmanya Tilak but on the Almanacs. Here, we found some of the references that describe and fulfil the aim of the study. We found that, in the earlier phase, almanac calculations were not according to nautical calculations. At that time, people were puzzled about the actual solar or lunar eclipse. Dr. Tilak D.J., Dr. Tilak G [1] "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 28. Also, they followed the different longitudes and latitudes of different places. Roberts C [2], "What India Thinks: Being a Symposium of Thought Contributed", ASIAN EDUCATIONAL SERVICES, New Delhi. Further, we found that Astrology is a crucial element of Veda, and it plays a pivotal role in fixing the favourable time. Since, ancient time, it was in use for the prediction of the solar and lunar eclipses.

### History of Scientific Calculations of Almanac

Here, in the present study, we have used various literature available on the Tilak and his contributory act in obtaining almanac. We found that there were very fewer events that describe his contribution in securing the scientific calculations of almanac. We found that to get the scientific computation of almanac, the Shankaracharya of Dwarka called a seminar during 1904. He held a seminar in Mumbai, at Madhav Bag. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 28. To attain the fundamental purpose, he invited various experts in the field of almanac calculations. And he formed four groups of experts. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 28.

The Shankaracharya of Dwarka conducted a session of a brain-storming. It describes that the method of a brain-storming was in use since ancient time to obtain desired results. Here, Lokmanya Tilak took great efforts and discussed the problem with all the group. After performing a thorough discussion, all four groups concluded that there should be a book on the method of calculation. He ended the seminar with the thought that 11 experts should prepare a book based on the method of calculation. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 28. Also, in the seminar, it was decided that, if the proposal of the book were acceptable to all, then necessary action would be taken. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 28.

To take the decisions made in Mumbai, at Madhav Bag seminar, Lokmanya Tilak organized a seminar. After a gap of 15 years, i.e., in 1919, he took the initiative and announced a seminar on Accurate Almanac Calculations. He was on a leading role and elected as a president of the seminar. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 28. At that time, there were subject committees where significant discussions took place. Tilak took part in all of the committees and discussions. During the seminar, Lokmanya Tilak convinced everyone about changing the calculations. At the end of the seminar they found that there 23 Ayanash still remained and it was decided that no one will hide these facts. Also, all other changes made by Lokmanya Tilak were accepted during the seminar. Dr. Tilak D.J., Dr. Tilak G [1], "Lokmanya B. G. Tilak The Visionary", Tilak Maharashtra Vidyapeeth, Pune 28. Here, the researcher wants to take the support of the famous quote written by DhliayoMatshona; it stated as, "Critics are loud, but success is louder."

To take the decision and discussion of scientific calculations further, Tilak again organized major astronomical convention at Sangli. Dr. Tilak D.J., Dr. Tilak G [1], “Lokmanya B. G. Tilak The Visionary”, Tilak Maharashtra Vidyapeeth, Pune 28. In this seminar, we found that everyone got agreed and accepted to calculation upto 9 Ayanash. Dr. Tilak D.J., Dr. Tilak G [1], “Lokmanya B. G. Tilak The Visionary”, Tilak Maharashtra Vidyapeeth, Pune 28.

### **Lokmanya Tilak’s motto for ShuddaPanchang**

While performing the research on Lokmanya Bal Gangadhar Tilak and his contributory act in the development of India, we found crucial information. We discovered that Lokmanya Tilak supported all the movements that were designed for the benefits of countrymen, humanity and his nation. Also, he conducted various seminars to make the Indian Almanac to be scientific and very accurate. Dr. Tilak D.J., Dr. Tilak G [1], “Lokmanya B. G. Tilak The Visionary”, Tilak Maharashtra Vidyapeeth, Pune 28. He was the prime member and strived hard to obtain the accurate method of almanac calculation. Also, he wished to have common almanac all over India remained incomplete. Because, on August 1, 1920, immediate after the Sangli Seminar, Lokmanya Tilak died. Dr. Tilak D.J., Dr. Tilak G [1], “Lokmanya B. G. Tilak The Visionary”, Tilak Maharashtra Vidyapeeth, Pune 28.

There was one observatory at Greenwich, but Lokmanya Tilak wanted to start in Pune. For this, he applied to the British officers, but permission was denied. We found proof of this while going through literature. We found Tilak’s statement made in Sangli, and it stated as, “We must have our own Astro Laboratory to observe changes in space. This will not only help us to calculate our almanac correctly but will help us to know the minute changes in the space.” Through this, one can come to know Tilak’s longterm visionary features. We found that nowadays also, the 'Kesari-Marhartta Trust' publishes an almanac based on astronomical convention decided at Sangli seminar. There are differences in the Hindu Panchangas all the almanac publishers take the support of Greenwich calculations. Dr. Tilak D.J., Dr. Tilak G [1], “Lokmanya B. G. Tilak The Visionary”, Tilak Maharashtra Vidyapeeth, Pune 28.

### **CONCLUSION**

The researcher has performed the present study to understand Lokmanya Tilak’s contribution to ShuddaPanchang. The present study was conducted to appreciate Lokmanya Tilak and his contributory act to obtain a scientific method of almanac calculations. For this aim, we referred to various literature, resources and performed a set of activities. At last, the researcher obtained clear insights on Lokmanya Tilak’s contributory act in developing almanac based on astronomical conventions. The principal goal of the study was to provide fundamental knowledge of Tilak’s work. Also, the researcher has tried to match the utmost goals of the study.

- Lokmanya Bal Gangadhar Tilak’s sense of self-learning and whole hearted dedication
- Lokmanya Tilak’s involvement in formation of Shudda Panchang
- Lokmanya Tilak’s aim behind the formation of an observatory in Pune
- Lokmanya Tilak’s role in various seminars conducted in regards to obtain more accurate method of almanac calculations

### **REFERENCES**

1. Tilak, D. J., & Tilak, G. (2019). “Lokmanya B. G. Tilak the Visionary”, Tilak Maharashtra Vidyapeeth, Pune.
2. Roberts, C. (2004). What India Thinks: Being a Symposium of Thought Contributed, Asian Educational Services, New Delhi.