



# SYSTEM AND METHOD FOR ENCODING AND DECODING ETHNIC DATA INTO GENETIC CODES

**IITM Technology Available for Licensing**

### PROBLEM STATEMENT

- In the present era, for healthy and multi-cultured world, there is indeed requirement of hearing or chanting tales of ancient lore such as ancient mantras & etc. (ethnic data).
- To preserve the wealth of precious resource of **ethnic data into the conventional digital medium** such as PDFs, CD, DVDs & other digital forms are **not safe, secure and damageable** after a prescribed time period.
- Therefore, it is very challenging for storing and protecting such ethnic data and those data are essential to protect in a highly encrypted format.
- Hence there is need to address the above issues by introducing the subject present invention.

### TECHNOLOGY CATEGORY/MARKET

**Technology:** Encoding & Decoding Ethnic Data;

**Industry:** Mythology, Traditional Knowledge Database, Government & Defense, Banking;

**Applications:** Mythology, Archival, Quality Control, Research & Prototyping & etc.

**Market:** The global **DNA digital data storage** market is projected to expand at a **CAGR** of **64.4%** during period from **2022** to **2035**.

### TECHNOLOGY

- Present invention describe about a **system** and method for **encoding & decoding ethnic data** including ancient mantras, slogans, & verses into **genetic codes**.
- The system comprises a **VKRSV encoding module** used for encoding the **ethnic data** into a **genetic code** wherein the genetic code stores ethnic data for a **longer period**.
- The encoded data can be stored as a DNA nucleotide sequence format.
- A **VKRSV decoding module** is used for retrieving and decoding the encoded data.

The System operation is explained using a with smart-chart, figures.

**1<sup>ST</sup> step** talks about Encoding technic using a **VKRSV encoding module** for encoding the ethnic data into genetic data;

**2<sup>nd</sup> step** describes about the storing the encoded data in one or more DNA nucleotide sequence format; and

**Finally** retrieving the encoded data using a **VKRSV decoding module**, wherein the decoding module operates on retrieving and decoding the encoded data, converting from nucleotide format to digital patterns either digital 2 bits or decimal format;

### KEY FEATURES / VALUE PROPOSITION

**1. Technical Perspective:** The encoded data stored as a DNA nucleotide sequence format which is capable to store large amount of data in terms of **Terabytes for longer period**.

**2. Industrial Perspective:** Ancient Mythology can easily be **stored, secured and protected** as a **treasure** of India & world.

### INTELLECTUAL PROPERTY

**IITM IDF Ref. 1718;**

**Patent Application No: 201841028950**

**PCT Application No: PCT/IN2019/000025**

### TRL (TECHNOLOGY READINESS LEVEL)

**TRL- 4**, Proof of Concept ready & validated

### RESEARCH LAB

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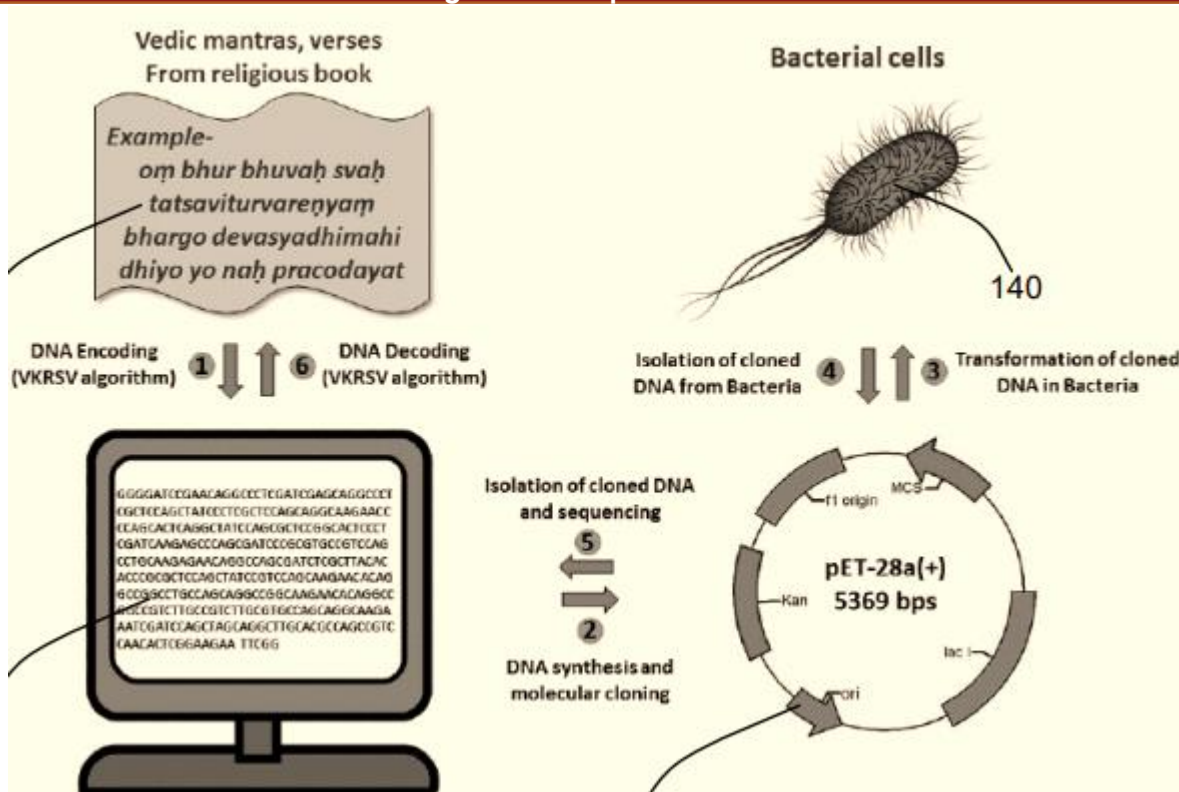
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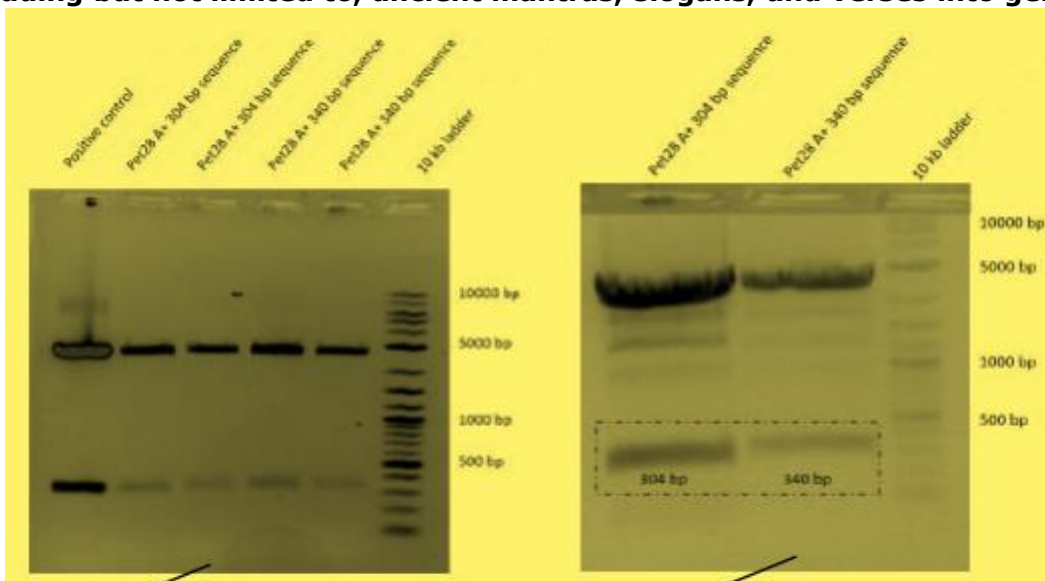
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### Images with Experimental Results



**FIG. 1: Illustrates a schematic representation of a system for encoding & decoding ethnic data including but not limited to, ancient mantras, slogans, and verses into genetic codes.**



**FIG. 2: Illustrates a graphical representation of the colony PCR and restriction mapping analysis carried out for selecting the desired recombinant transformants containing 304 bps and 340 bps nucleotide sequence among different recombinants.**

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