**Research Related Statement**

**Topic Name : Artificial Intelligence**

**Necessity :**

Artificial Intelligence is one of the most futuristic thought in today’s world. Artificial Intelligence helps us to predict something based on the previous data. In AI, We take millions of data and train the model then test the models. As a result, the AI model almost predicts the right answer or takes the right decision. If our country aims to visit the moon or explore the space then our main concern will be to build a system that can think like a human as we can not send people to the space in our initial projects. So, We will need a system that can think like human based on the training data and take decision like human from analyzing the previous data. Artificial Intelligence will help us to build that system for us.

**Expected Result :**

We will have a system ready that will think like human and take decision like human in space. As a result, We will be able to explore the space safely and the data that we will receive from space will be more accurate. It will help us to take the next step towards space.

**Topic Name : Molecular Dynamics.**

**Necessity :**

Molecular dynamics (MD) is a computer simulation method for analyzing the physical movements of atoms and molecules. Heat management in chip design is very important as it has direct relation with efficiency. In order to build safe and efficient space shuttles we are going to need a material that will be helpful for heat management. In our project our main goal will be to find out a material that is cheap, available and enriched with high thermal conductivity. So far graphene has the highest thermal conductivity but graphene has some disadvantages like there is no visual band gaph for graphene that’s why we can’t switch it off. Other highly thermal conductive materials are diamond, silver, copper and gold. But these materials are not cheap. So we need a semiconductor that is cheap and highly thermal conductive. This will help us to build better chips and microcontrollers.

**Expected Result :**

We expect that we will be able to find out a good material that is highly thermal conductive and cheap. This will help our chips and microcontrollers to be more precise and efficient. As a result our space shuttles and other machines will work fast and efficiently.