# Assignment details-

## Subject - Artificial Intelligence and Robotics

## Deadline - 11th April 2024, 11:59 PM (Indian Standard Time)

We have to do a PATENT on the below topic-

**Domain - Robotics AI - Using the AMD KRIA™ KR260 Robotics Starter Kit, this category focuses on AI-Driven robotics mechanism.**

**Title -** Object Manipulation in Cluttered Spaces

**The Challenge:** Robots often have difficulty grasping and manipulating objects of different shapes, sizes, and textures in cluttered or disorganized environments. Challenges further increase when objects are fragile, deformable, or in unknown configurations.

**Initial tasks -**

Write-

• Objective

• Outcomes

• Hardware Requirements with specifications and cost

• Tentative Budget

• Refer atleast 10 recent research articles/papers (preferably IEEE papers published after 2020) ,then identify atleast 7-8 drawbacks/issues. After identifying those issues, **draw a proposed architecture diagram and explain how new proposed architecture diagram can tackle those drawbacks/issues.**

NOTE - NEW PROPOSED ARCHITECTURE DIAGRAM IS VERY IMPORTANT AND IT SHOULD BE WELL ELABORATED.

**Then you have to proceed with PATENT work by answering all the below given 15 questions -**

1.     **Proposed Title of the Invention** (Not more than 10 to15 words)

2.     **Proposed Abstract of the Invention** (Kindly explain the crux of the invention in about 150 to 200 words.)

3.     **Key Words:**

4.     **Background of the Invention:**

**What are the present technologies that exist in the field of your invention and what are the limitations of the same? (Present state of Art)**

5.     **What problems does the invention address and how your Invention is able to overcome the limitations/ problems of the existing technologies?**

6.     **Detailed Explanation of the Invention along with working examples. Kindly provide an elaborated description of each and every aspect of the invention (product and/or process) in great detail.**

7.   **Kindly attach drawings, reports, papers, charts or other materials that may aid in your description.**

8.   **What are the aspects of your disclosure that you want to claim/ monopolize?**

**Proposed Claims:**

9.   **Have you conducted novelty/inventiveness search for your invention? If yes, what are the databases /references used by you? What are the search results?**

10.  **Do you feel that a person of "average" skill (not-extraordinary skill) in your area of technology would have arrived at your invention with existing knowledge in public domain? If no, what could be the reasons for the same?**

11.  **Kindly provide broad workable ranges for all the parameters involved in your invention.**

12.  **References (if any)**

**13.   Inventors Details (Full Names, Nationality and Addresses)**


**14.   Applicant Details (Full Names, Nationality and Addresses)**


**15.    Any additional notes or remarks.**