**Experiment No. 1**

**Title:** Case Study for AI application-PEAS and Task Environments

**Batch: B-1 Roll No.: 16010422234**

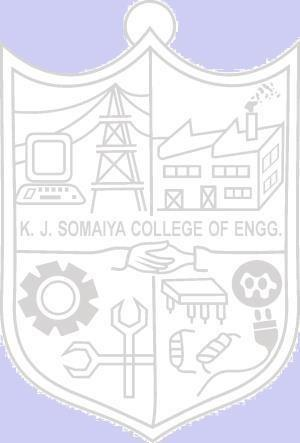
**Experiment No.: 1**

**Aim:** To comprehend Case Study for AI application for PEAS and Task Environments

**Resources needed:** Internet

**Theory**

Artificial intelligence is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence.

Artificial intelligence is the search for a way to map intelligence into mechanical hardware and enable a structure into that system to formalize thought. No formal definition, as yet, is available as to what artificial intelligence actually is.

There are numerous definitions of what artificial intelligence is. We end up with four possible goals:

1. Systems that think like humans (focus on reasoning and human framework)

2. Systems that think rationally (focus on reasoning and a general concept of intelligence)

3. Systems that act like humans (focus on behaviour and human framework)

4. Systems that act rationally (focus on behaviour and a general concept of intelligence) Artificial intelligence has successfully been used in a wide range of fields including medical diagnosis, stock trading, robot control, law, scientific discovery, video games, toys, and Web search engines.

Here are some applications of artificial intelligence:

1. Game playing

2. Speech synthesis, recognition and understanding very useful for limited vocabulary

applications unconstrained speech understanding is still too hard

3. Understanding natural language

4. Computer vision works for constrained problems (hand-written zip-codes). Understanding real-world, natural scenes is still too hard.

5. Expert systems, Learning adaptive systems are used in many applications: have their limits

6. Planning and Reasoning only works for constrained problems: e.g., chess real-world is too

complex for general systems.

**PEAS Representation:**

**Performance Measure**

Specified by outside observer or evaluator

Applied (consistently) to (one or more) IAs in given environment

**Environment**

Reachable states “Things that can happen” “Where the agent can go”

To be distinguished (TBD) from: observable states

**Actuators**

What can be performed?

Limited by physical factors and self-knowledge

**Sensors**

What can be observed?

Subject to error: measurement, sampling, post processing

**Procedure:**

1. For this experiment students have to individually select a topic on any developed AI

Agent/application (ex. Apple Siri, a Virtual assistant).

Get the topic approved from the batch in-charge.

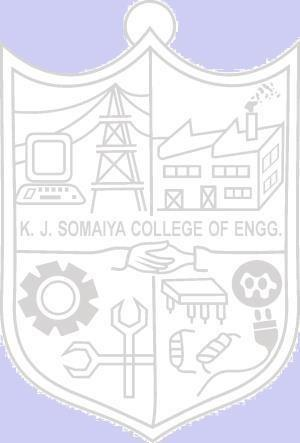
1. Analyze application/agent from artificial intelligence point of view and give description and features for the same.
2. Compare the features of selected AI with other existing AI agents (Google Assistant, Samsung Bixby) in terms of few performance metrics.

4. Give its PEAS representation in table format

5. Identify the type of AI agent and type of Environment for chosen application/AI agent.

**Results: (Softcopy submission of Summary Document) Outcomes:**

**Conclusion:**

**Grade: AA / AB / BB / BC / CC / CD /DD**

**Signature of faculty in-charge with date**

**References:**

1. Stuart Russell and Peter Norvig, Artificial Intelligence: A Modern Approach, Second Edition, Pearson Publication
2. Elaine Rich, Kevin Knight, Artificial Intelligence, Tata McGraw Hill, 1999.