**Mahavir Education Trust's**

**Shah & Anchor Kutchhi Engineering College,**

**Chembur, Mumbai 400 088**

**UG Program in Information Technology**

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**Class-Batch:** BE\_5A

**Roll No:** 07

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| **EXPERIMENT\_NO.02** | | | | | |
| **Date of Performance:** | 05/08/2021 | | | | |
| **Date of Submission:** | 12/08/2021 | | | | |
| **Program formation/ Execution/ ethical practices (07)** | **Documentation (02)** | **Timely Submission (03)** | **Viva Answer**  **(03)** | **Experiment Marks**  **(15)** | **Teacher Signature**  **with date** |
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**EXPERIMENT\_NO.02**

**AIM:** Design of Intelligent System using PEAS (any 4).

**LAB OUTCOME:** 7. ITL703.1 Design the building blocks of an Intelligent Agent using PEAS representation.

**THEORY:**

**What are PEAS?**

PEAS stands for **Performance Measures, Environment, Actuators, and Sensors**. Actuators: These are the tools, equipment or organs using which agent performs actions in the environment. This works as output of the agent. Sensors: These are tools, organs using which agent captures the state of the environment.

1. **Performance Measure:** Performance measure is the unit to define the success of an agent. Performance varies with agents based on their different precept.
2. **Environment**: Environment is the surrounding of an agent at every instant. It keeps changing with time if the agent is set in motion. There are 5 major types of environments:
   * Fully Observable & Partially Observable
   * Episodic & Sequential
   * Static & Dynamic
   * Discrete & Continuous
   * Deterministic & Stochastic
3. **Actuator**: Actuator is a part of the agent that delivers the output of an action to the environment.
4. **Sensor**: Sensors are the receptive parts of an agent which takes in the input for the agent.

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| Agent | Performance Measure | Environment | Actuator | Sensor |
| Hospital Management System | Patient’s health, Admission process, Payment | Hospital, Doctors, Patients | Prescription, Diagnosis, Scan report | Symptoms, Patient’s response |
| Automated Car Drive | Comfortable trip, Safety, Maximum Distance | Roads, Traffic, Vehicles | Steering wheel, Accelerator, Brake, Mirror | Camera, GPS, Odometer |
| Subject Tutoring | Maximize scores, Improvement is students | Classroom, Desk, Chair, Board, Staff, Students | Smart displays, Corrections | Eyes, Ears, Notebooks |
| Exploring the subsurface oceans of Titan | Safety, images quality, video quality | Ocean, water | Mobile diver, steering, brake, accelerator | Video, accelerometers, depth sensor, GPS |

**CONCLUSION:** PEAS System is used to categorize similar agents together. The PEAS system delivers the performance measure with respect to the environment, actuators and sensors of the respective agent. Most of the highest performing agents are Rational Agents.