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| **Course Name:** | **Sensors in Augmented and Virtual Reality** | **Semester:** | **IV** |
| **Date of Performance:** |  | **Batch No:** |  |
| **Faculty Name:** | **Ms. Megha Sharma** | **Roll No:** |  |
| **Faculty Sign & Date:** |  | **Grade/Marks:** |  |

**Experiment No: 7**

**Title: Implementation of logic gates using Pneumatic Actuators**

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| **Aim and Objective of the Experiment:** |
| **To learn working of Pneumatic actuator using shuttle and two pressure valve** |

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| **COs to be achieved:** |
| **CO3: Understand advanced sensors and actuators used in Virtual reality hardware**  **CO4: Understand advanced sensors and actuators used in Augmented reality**  **CO5: Interface sensors and actuators to AR and VR systems** |

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| **Theory:**  Pneumatic systems used in industry are commonly powered by compressed air or compressed inert  gases. A centrally located and electrically-powered compressor powers cylinders, air motors,  pneumatic actuators, and other pneumatic devices. A pneumatic system controlled through manual  or automatic solenoid valves is selected when it provides a lower cost, more flexible, or safer  alternative to electric motors, and hydraulic actuators.  Pneumatic systems in fixed installations, such as factories, use compressed air because a sustainable  supply can be made by compressing atmospheric air. The air usually has moisture removed, and a  small quantity of oil is added at the compressor to prevent corrosion and lubricate mechanical  components.  AND Gate  Parts (Bottom to up) :  1.Air Compressor  2. Air Service unit  3. 3/2 Directional Valve  4. Flow control valve(Forward and reverse path)  5. Single acting cylinder  6. Shut off valve  OR Gate |

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| **Stepwise-Procedure:** |
| Connect Pneumatic Circuit as per diagram |

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| **Output:** |
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| **Results:** |
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| **Post Lab Subjective/Objective type Questions:** |
| **Give application and details of following valves :**   1. **Shuttle Valve** 2. **Two Pressure Valve** |

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| **Conclusion:** |
| We successfully connected the pneumatic cylinders and saw how the pistons work using the air  pressure. |

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| **Signature of faculty in-charge with Date:** |