

Assignment No. 1**AUTOMATION AND ROBOTICS****L-T-P
3-1-0****UNIT- I:****Automation:**

Definition, Advantages, goals, types, need, laws and principles of Automation. Elements of Automation. Fluid power and its elements, application of fluid power, Pneumatics vs. Hydraulics, benefit and limitations of pneumatics and hydraulics systems, Role of Robotics in Industrial Automation.

1. Define automation, and its advantages and disadvantages.
2. What are common goal of automation. And also need of automation.
3. Discuss different types of automation and their advantage and disadvantages.
4. What is difference between fixed automation and programmable automation?
5. Discuss in brief about the USA principle of automation.
6. Briefly explain the ten strategies for automation.
7. Discuss the role of PLC in automation and robotics.
8. Discuss in short about fluid power systems. Also write down the advantages and disadvantages of fluid power systems.
9. What are the basic components of fluid power systems? Write down the applications of fluid power.
10. Differentiate between hydraulic and pneumatic systems.
OR
Differentiate between hydraulics and pneumatics. Which one is advantageous and why? Explain
11. Discuss in detail the integration of mechanical systems with electronics and computer system.
12. Write short note on industrial robot.

Note- Attempt any 6 questions. And submit till 31.01.23 (Tuesday).