

Course: Automation in Manufacturing

Course Code: noc20-me58

Session: 2020-21

Duration: 12 Week

Assessment procedures: Weekly Assignment (25%) + proctored certification Exam (75%)

Curriculum of the Course:

Week 1:

- Introduction: Importance of automation in the manufacturing industry
- Use of mechatronics
- Systems required

Week 2:

- Design of an automated system
- Building blocks of an automated system
- working principle and examples

Week 3:

- Fabrication
- Fabrication or selection of various components of an automated system
- Specifications of various elements
- Use of design data books and catalogues

Week 4:

- Sensors: study of various sensors required in a typical automated system for manufacturing
- Construction and principle of operation of sensors

Week 5:

- Microprocessor Technology
- signal conditioning and data acquisition
- use of microprocessor or micro controllers
- Configurations
- Working

Week 6:

- Drives: electrical drives - types
- selection criteria
- construction and operating principle

Week 7:

- Mechanisms: Ball screws
- linear motion bearings
- cams
- systems controlled by camshafts

Week 8:

- Mechanisms
- Electronic cams
- indexing mechanisms
- tool magazines
- transfer systems

Week 9:

- Hydraulic systems: hydraulic power pack,
- pumps
- valves

Week 10:

- Hydraulic systems: designing of hydraulic circuits

Week 11:

- Pneumatic systems
- configurations
- compressors
- valves
- distribution and conditioning

Week 12:

- CNC technology
- basic elements
- interpolators and programming

List of students enrolled

S. No	Name of Student
1	Abhishek Gupta
2	Abhishek Sharma
3	arnav pareek
4	Bharat Sharma
5	Chirag Patni
6	DARSHIT MEHTA

7	Devaksh Narwara
8	Dileep Menaria
9	gunjan khandelwal
10	Lakshya bhatra
11	Naveen Pareek
12	Harsh sharma
13	Rajkumar gangwar
14	Rishabh Shrivastava
15	Roshan nama
16	Shubham Soni
17	hitesh mishra
18	Akshay Verma
19	Abhishek Sharma
20	Yagyesh Sharma