Course Name	**:**	MAPS (Design, Programming and Operation)
Course Code	**:**	Mech01

Course Objective: Making participants familiar with TIA portal v.14, MAPS machine, PLC s7-1200

Duration of course = 60

Lecture/Lab wise breakup		**Number of hours**
1.	Introduction to Modular automation plant Introduction to sensor and its types, motors Introduction to electro pneumatic actuator, FRL unit introduction of control panel Creating the project and configure Hardware Working with different views like Project View & portal View. introduction of ladder logic and exercises	**8**
2.	Input/output configuration of Distribution station Blueprint reading of Pneumatic diagram of distribution Station Blueprint reading of Electrical diagram of distribution Station Creating FB and creating STEP diagrams of distribution Station Programming of check bottle is in position and move the bottle to pick up position programming of pick the bottle to distribution station and place the bottle to testing station Run and monitoring the distribution station	**9**
3.	Input/output configuration of testing station Blueprint reading of Pneumatic diagram of testing Station Blueprint reading of Electrical diagram of testing station Creating FB and creating STEP diagrams of testing Station programming of detect bottle using sensor programming of test the bottle for height using LVDT programming of test the material of the bottle using inductive sensor programming of reject the bottle that does not meet the height and material requirement Run and monitoring the testing station	**11**
4.	Input/output configuration of processing station Blueprint reading of Pneumatic diagram of processing Station Blueprint reading of Electrical diagram of processing station Creating FB and creating STEP diagrams of processing Station	

	programming of index rotary table in processing station programming of detect bottle using sensor in processing station programming of fill the bottle with material in processing station programming of capping the bottle in processing Station programming of position the bottle for unloading in processing Station Run and monitoring the processing station	**12**
5.	Input/output configuration of buffering station Blueprint reading of Pneumatic diagram of buffering Station Blueprint reading of Electrical diagram of buffering station Creating FB and creating STEP diagrams of buffering Station programming of detect bottle using sensor in buffering station programming of transfers the bottle to buffer separator in buffering station programming of transfers the bottle to unloading position of buffer station when no bottle in presence in buffering station Run and monitoring the buffering station	**10**
6.	Input/output configuration of sorting station Blueprint reading of Pneumatic diagram of sorting Station Blueprint reading of Electrical diagram of sorting station Creating FB and creating STEP diagrams of sorting Station programming of detect bottle using sensor in sorting station programming of transfers he bottle to sorting slide bed 1, if the color sensor detects the correct features of the bottle programming of transfers the bottle to sorting slide bed 2, if the color sensor doesn't detects the correct features of the bottle Run and monitoring the sorting station	**10**
Course Outcome	After successful completion of this course, user will be able to program the various modules of mechatronics system.	